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DRIFTING LIGHT-WAVES.

BY RICHARD A. PROCTOR, B.A., F.R.S.

THE method of measuring the motion of very swiftly-travelling bodies by noting changes in the light-waves which reach us from them—one of the most remarkable methods of observation ever yet devised by man—has recently been placed upon its trial, so to speak, with results exceedingly satisfactory to the students of science who had accepted the facts established by it. The method will not be unfamiliar to many readers of these pages. The principle involved was first noted by M. Doppler, but not in a form which promised any useful results. The method actually applied appears to have occurred simultaneously to several persons, as well theorists as observers. Thus Secchi claimed in March, 1868, to have applied it, though unsuccessfully; Huggins in April, 1868, described his successful use of the method. I myself, wholly unaware that either of these observers was endeavoring to measure ce-

lestial motions by its means, described the method, in words which I shall presently quote, in the number of *Fraser's Magazine* for January, 1868, two months before the earliest enunciation of its nature by the physicists just named.

It will be well briefly to describe the principle of this interesting method, before considering the attack to which it has been recently subjected, and its triumphant acquittal from defects charged against it. This brief description will not only be useful to those readers who chance not to be acquainted with the method, but may serve to remove objections which suggest themselves, I notice, to many who have had the principle of the method imperfectly explained to them.

Light travels from every self-luminous body in waves which sweep through the ether of space at the rate of 185,000 miles per second. As I have elsewhere pointed

out, "the whole of that region of space over which astronomers have extended their survey, and doubtless a region many millions of millions of times more extended, may be compared to a wave-tossed sea, only that instead of a wave-tossed surface, there is wave-tossed space." At every point, through every point, along every line, athwart every line, myriads of light-waves are at all times rushing with the inconceivable velocity just mentioned. It is from such waves that we have learned all we know about the universe outside our own earth. They bring to our shores news from other worlds, though the news is not always easy to decipher.

Now, seeing that we are thus immersed in an ocean, athwart which infinite series of waves are continually rushing, and moreover that we ourselves, and every one of the bodies whence the waves proceed either directly or after reflection, are travelling with enormous velocity through this ocean, the idea naturally presents itself that we may learn something about these motions (as well as about the bodies themselves whence they proceed), by studying the aspect of the waves which flow in upon us in all directions. Suppose a strong swimmer who knew that, were he at rest, a certain series of waves would cross him at a particular rate—ten, for instance, in a minute—were to notice that when he was swimming directly facing them, eleven passed him in a minute—he would be able at once to compare his rate of swimming with the rate of the waves' motion. He would know that while ten waves had passed him on account of the waves' motion, he had by his own motion caused yet another wave to pass him, or in other words, had traversed the distance from one wave-crest to the next. Thus he would know that his rate was one-tenth that of the waves. Similarly if, travelling the same way as the waves, he found that only nine passed him in a minute, instead of ten. Again, it is not difficult to see that if an observer were at rest, and a body in the water, which by certain motions produced waves, were approaching or receding from the observer, the waves would come in faster in the former case, slower in the latter, than if the body were at rest. Suppose, for instance, that some machinery at the bows

of a ship raised waves which, if the ship were at rest, would travel along at the rate of ten a minute past the observer's station. Then clearly, if the ship approached him, each successive wave would have a shorter distance to travel, and so would reach him sooner than it otherwise would have done. Suppose, for instance, the ship travelled one-tenth as fast as the waves, and consider ten waves proceeding from her bows—the first would have to travel a certain distance before reaching the observer; the tenth, starting a minute later, instead of having to travel the same distance, would have to travel this distance diminished by the space over which the ship had passed in one minute (which the wave itself passes over in the tenth of a minute); instead, then, of reaching the observer one minute after the other, it would reach him in nine-tenths of a minute after the first. Thus it would seem to him as though the waves were coming in faster than when the ship was at rest, in the proportion of ten to nine, though in reality they would be travelling at the same rate as before, only arriving in quicker succession, because of the continual shortening of the distance they had to travel, on account of the ship's approach. If he knew precisely how fast they *would* arrive if the ship were at rest, and determined precisely how fast they *did* arrive, he would be able to determine at once the rate of the ship's approach, at least the proportion between her rate and the rate of the waves' motion. Similarly if, owing to the ship's recession, the apparent rate of the waves' motion were reduced, it is obvious that the actual change in the wave motion would not be a difference of rate; but, in the case of the approaching ship, the breadth from crest to crest would be reduced, while in the case of a receding ship the distance from crest to crest would be increased.

If the above explanation should still seem to require closer attention than the general reader may be disposed to give, the following, suggested by a friend of mine—a very skilful mathematician—will be found still simpler: Suppose a stream to flow quite uniformly, and that at one place on its banks an observer is stationed, while at another higher up a person throws corks into the water at

regular intervals, say ten corks per minute; then these will float down and pass the other observer, wherever he may be, at the rate of ten per minute, *if* the cork-thrower is at rest. But if he saunters either up stream or down stream, the corks will no longer float past the other at the exact rate of ten per minute. If the thrower is sauntering down stream, then between throwing any cork and the next, he has walked a certain way down, and the tenth cork, instead of having to travel the same distance as the first before reaching the observer, has a shorter distance to travel, and so reaches that observer sooner. Or, in fact, which some may find easier to see, this cork will be nearer to the first cork than it would have been if the thrower had remained still. The corks will lie at equal distances from each other, but these equal distances will be less than they would have been if the observer had been at rest. If, on the contrary, the cork-thrower saunters up stream, the corks will be somewhat farther apart than if he had remained at rest. And supposing the observer to know beforehand that the corks would be thrown in at the rate of ten a minute, he would know, if they passed him at a greater rate than ten a minute (or, in other words, at a less distance from each other than the stream traversed in the tenth of a minute), that the cork-thrower was travelling downstream or approaching him; whereas if fewer than ten a minute passed him, he would know that the cork-thrower was travelling away from him, or up-stream. But also, if the cork-thrower were at rest, and the observer moved up-stream—that is, towards him—the corks would pass him at a greater rate than ten a minute; whereas if the observer were travelling down-stream, or from the thrower, they would pass him at a slower rate. If both were moving, it is easily seen that if their movement brought them nearer together, the number of corks passing the observer per minute would be increased, whereas if their movements set them farther apart, the number passing him per minute would be diminished.

These illustrations, derived from the motions of water, suffice in reality for our purpose. The waves which are emitted by luminous bodies in space

travel onwards like the water-waves or the corks of the preceding illustrations. If the body which emits them is rapidly approaching us the waves are set closer together or narrowed, whereas if the body is receding they are thrown farther apart or broadened. And if we can in any way recognize such narrowing or broadening of the light-waves, we know just as certainly that the source of light is approaching us or receding from us as the case may be, as our observer in the second illustration would know from the distance between the corks whether his friend, the cork-thrower, was drawing near to him or travelling away from him.

But it may be convenient to give another illustration, drawn from waves which, like those of light, are not themselves discernible by our senses—I refer to those aerial waves of compression and rarefaction which produce what we call sound. These waves are not only in this respect better suited than water-waves to illustrate our subject, but also because they travel in all directions through aerial space, not merely along a surface. The waves which produce a certain note, that is, which excite in our minds, through the auditory nerve, the impression corresponding to a certain tone, have a definite length. So long as the observer, and a source of sound vibrating in one particular period, remain both in the same place, the note is unchanged in tone, though it may grow louder or fainter according as the vibrations increase or diminish in amplitude. But if the source of sound is approaching the hearer, the waves are thrown closer together and the sound is rendered more acute (the longer waves giving the deeper sound); and, on the other hand, if the source of sound is receding from the hearer, the waves are thrown farther apart and the sound is rendered graver. The *rationale* of these changes is precisely the same as that of the changes described in the preceding illustrations. It might, perhaps, appear that in so saying we were dismissing the illustration from sound, at least as an independent one, because we are explaining the illustration by preceding illustrations. But in reality, while there is absolutely nothing new to be said respecting the increase and diminution of distances (as between the waves and corks

of the preceding illustration), the illustration from sound has the immense advantage of admitting readily of experimental tests. It is necessary only that the rate of approach or recession should bear an appreciable proportion to the rate at which sound travels. For waves are shortened or lengthened by approach or recession by an amount which bears to the entire length of the wave the same proportion which the rate of approach or recession bears to the rate of the wave's advance. Now it is not very difficult to obtain rates of approach or recession fairly comparable with the velocity of sound,—about 364 yards per second. An express train at full speed travels, let us say, about 1,800 yards per minute, or 30 yards per second. Such a velocity would suffice to reduce all the sound-waves proceeding from a bell or whistle upon the engine, by about one twelfth part, for an observer at rest on a station-platform approached by the engine. On the contrary, after the engine had passed him, the sound-waves proceeding from the same bell or whistle would be lengthened by one-twelfth. The difference between the two tones would be almost exactly three semitones. If the hearer, instead of being on a platform, were in a train carried past the other at the same rate, the difference between the tone of the bell in approaching and its tone in receding would be about three tones. It would not be at all difficult so to arrange matters, that while two bells were sounding the same note—*Mi*, let us say—one bell on one engine the other on the other, a traveller by one should hear his own engine's bell, the bell of the approaching engine, and the bell of the same engine receding, as the three notes—*Do—Mi—Sol*, whose wave-lengths are as the numbers 15, 12, and 10. We have here differences very easily to be recognized even by those who are not musicians. Every one who travels much by train must have noticed how the tone of a whistle changes as the engine sounding it travels past. The change is not quite sharp, but very rapid, because the other engine does not approach with a certain velocity up to a definite moment and then recede with the same velocity. It could only do this by rushing through the hearer, which would render the ex-

periment theoretically more exact but practically unsatisfactory. As it rushes past instead of through him, there is a brief time during which the rate of approach is rapidly being reduced to nothing, followed by a similarly brief time during which the rate of recession gradually increases from nothing up to the actual rate of the engines' velocities added together.

Where a bell is sounded on the engine, as in America, the effect is better recognized, as I had repeated occasion to notice during my travels in that country. Probably this is because the tone of a bell is in any case much more clearly recognized than the tone of a railway whistle. The change of tone as a clanging bell is carried swiftly past (by the combined motions of both trains) is not at all of such a nature as to require close attention for its detection.

However, the apparent variation of sound produced by rapid approach or recession has been tested by exact experiments. On a railway uniting Utrecht and Maarsen "were placed," the late Professor Nichol wrote, "at intervals of something upwards of a thousand yards, three groups of musicians, who remained motionless during the requisite period. Another musician on the railway sounded at intervals one uniform note; and its effects on the ears of the stationary musicians have been fully published. From these, certainly—from the recorded changes between grave and the more acute, and *vice versa*—confirming, even numerically, what the relative velocities might have enabled one to predict, it appears justifiable to conclude that the general theory is correct; and that the note of any sound may be greatly modified, if not wholly changed, by the velocity of the individual hearing it," or, he should have added, by the velocity of the source of sound: perhaps more correct than either, is the statement that the note may be altered by the approach or recession of the source of sound, whether that be caused by the motion of the sounding body or of the hearer himself, or of both.

It is difficult, indeed, to understand how doubt can exist in the mind of any one competent to form an opinion on the matter, though, as we shall presently see, some students of science and one or two

mathematicians have raised doubts as to the validity of the reasoning by which it is shown that a change should occur. That the reasoning is sound cannot, in reality, be questioned, and after careful examination of the arguments urged against it by one or two mathematicians, I can form no other opinion than that these arguments amount really but to an expression of inability to understand the matter. This may seem astonishing, but is explained when we remember that some mathematicians, by devoting their attention too particularly to special departments, lose, to a surprising degree, the power of dealing with subjects (even mathematical ones) outside their department. Apart from the soundness of the reasoning, the facts are unmistakably in accordance with the conclusion to which the reasoning points. Yet some few still entertain doubts, a circumstance which may prove a source of consolation to any who find themselves unable to follow the reasoning on which the effect of approach or recession on wave-lengths depends. Let such remember, however, that experiment in the case of the aerial waves producing sound, accords perfectly with theory, and that the waves which produce light are perfectly analogous (so far as this particular point is concerned) with the waves producing sound.

Ordinary white light, and many kinds of colored light, may be compared with *noise*—that is, with a multitude of intermixed sounds. But light of one pure color may be compared to sound of one determinate note. As the aerial waves producing the effect of one definite tone are all of one length, so the ethereal waves producing light of one definite color are all of one length. Therefore if we approach or recede from a source of light emitting such waves, effects will result corresponding with what has been described above for the case of water-waves and sound-waves. If we approach the source of light, or if it approaches us, the waves will be shortened; if we recede from it, or if it recedes from us, the waves will be lengthened. But the color of light depends on its wave-length precisely as the tone of sound depends on its wave-length. The waves producing red light are longer than those producing orange light, these are longer than the waves

producing yellow light; and so the length-waves shorten down from yellow to green, thence to blue, to indigo, and finally to violet. Thus if light shining in reality with a pure green color, approached the observer with a velocity comparable with that of light, it would seem blue, indigo, or violet according to the rate of approach; whereas if it rapidly receded, it would seem yellow, orange, or red according to the rate of recession.

Unfortunately in one sense, though very fortunately in many much more important respects, the rates of motion among the celestial bodies are *not* comparable with the velocity of light, but are always so much less as to be almost rest by comparison. The velocity of light is about 187,000 miles per second, or, according to the measures of the solar system at present in vogue (which will shortly have to give place to somewhat larger measures, the result of observations made upon the recent transit of Venus), about 185,000 miles per second. The swiftest celestial motion of which we have ever had direct evidence was that of the comet of the year 1843, which, at the time of its nearest approach to the sun, was travelling at the rate of about 350 miles per second. This, compared with the velocity of light, is as the motion of a person taking six steps a minute, each less than half a yard long, to the rush of the swiftest express train. No body within our solar system can travel faster than this, the motion of a body falling upon the sun from an infinite distance being only about 370 miles per second when it reaches his surface. And though swifter motions probably exist among the bodies travelling around more massive suns than ours, yet of such motions we can never become cognisant. All the motions taking place among the stars themselves would appear to be very much less in amount. The most swiftly moving sun seems to travel but at the rate of about 50 or 60 miles per second.

Now let us consider how far a motion of 100 miles per second might be expected to modify the color of pure green light—selecting green as the middle color of the spectrum. The waves producing green light are of such a length, that 47,000 of them scarcely equal in length a single inch. Draw on paper an inch

and divide it carefully into ten equal parts, or take such parts from a well-divided rule; divide one of these tenths into ten equal parts, as nearly as the eye will permit you to judge; then one of these parts, or about half the thickness of an average pin, would contain 475 of the waves of pure green light. The same length would equal the length of 440 waves of pure yellow light, and of 511 waves of pure blue light. (The green, yellow, and blue, here spoken of, are understood to be of the precise color of the middle of the green, yellow, and blue parts of the spectrum.) Thus the green waves must be increased in the proportion of 475 to 440 to give yellow light, or reduced in the proportion of 511 to 475 to give blue light. For the first purpose, the velocity of recession must bear to the velocity of light the proportion which 30 bears to 475, or must be equal to rather more than one-sixteenth part of the velocity of light—say 11,600 miles per second. For the second purpose, the velocity of approach must bear to the velocity of light the proportion which 36 bears to 475, or must be nearly equal to one-thirteenth part of the velocity of light—say 14,300 miles per second. But the motions of the stars and other celestial bodies, and also the motions of matter in the sun, and so forth, are very much less than these. Except in the case of one or two comets (and always dismissing from consideration the amazing apparent velocities with which comets' tails *seem* to be formed), we may take 100 miles per second as the extreme limit of velocity with which we have to deal, in considering the application of our theory to the motions of recession and approach of celestial bodies. Thus in the case of recession the greatest possible change of color in pure green light would be equivalent to the difference between the medium green of the spectrum, and the color 1-116th part of the way from medium green to medium yellow; and in the case of approach, the change would correspond to the difference between the medium green and the color 1-143rd part of the way from medium green to medium blue. Let any one look at a spectrum of fair length, or even at a correctly tinted painting of the solar spectrum, and note how utterly unrecognizable to ordinary vision is the dif-

ference of tint for even the twentieth part of the distance between medium green and medium yellow on one side, or medium blue on the other, and he will recognize how utterly hopeless it would be to attempt to appreciate the change of color due to the approach or recession of a luminous body shining with pure green light and moving at the tremendous rate of 100 miles per second. It would be hopeless, even though we had the medium green color and the changed color, either towards yellow or towards blue, placed side by side for comparison—how much more when the changed color would have to be compared with the observer's recollection of the medium color, as seen on some other occasion?

But this is the least important of the difficulties affecting the application of this method by noting change of color as Doppler originally proposed. Another difficulty which seems somehow to have wholly escaped Doppler's attention, renders the color test altogether unavailable. We do not get *pure* light from any of the celestial bodies except certain gaseous clouds or nebulae. From every sun we get, as from our own sun, all the colors of the rainbow. There may be an excess of some colors and a deficiency of others in any star, so as to give the star a tint, or even a very decided color. But even a blood-red star, or a deep blue or violet star, does not shine with pure red light, for the spectroscope shows that the star has other colors than those producing the prevailing tint, and it is only the great *excess* of red rays (all kinds of red, too) or of blue rays (of all kinds), and so on, which makes the star appear red, or blue, and so on, to the eye. By far the greater number of stars or suns show all the colors of the rainbow nearly equally distributed, as in the case of our own sun. Now imagine for a moment a white sun, which had been at rest, to begin suddenly to approach us so rapidly (travelling more than 10,000 miles per second) that the red rays became orange, the orange became yellow, the yellow green, the green blue, the blue indigo, the indigo violet, and that the violet waves became too short to affect the sense of sight. Then, *if that were all*, that sun, being deprived of the red part of its light, would shine with a slightly bluish tinge, owing to the relative

superabundance of rays from the violet end of the spectrum. We should be able to recognize such a change, yet not nearly so distinctly as if that sun had been shining with a pure green light, and suddenly beginning to approach us at the enormous rate just mentioned, changed in color to full blue. *Though*, if that sun were all the time approaching us at the enormous rate imagined, we should be quite unable to tell whether its slightly bluish tinge were due to such motion of approach or to some inherent blueness in the light emitted by the star. Similarly, if a white sun suddenly began to recede so rapidly that its violet rays were turned to indigo, indigo to blue, and so on, the orange rays turning to red, and the red rays disappearing altogether, then, *if that were all*, its light would become slightly reddish, owing to the relative superabundance of light from the red end of the spectrum; and we might distinguish the change, yet not so readily as if a sun shining with pure green light began to recede at the same enormous rate, and so shone with pure yellow light. *Though*, if that sun were all the time receding at that enormous rate, we should be quite unable to tell whether its slightly reddish hue were due to such motion of recession or to some inherent redness in its own lustre. *But in neither case would that be all.* In the former, the red rays would indeed become orange; but the rays beyond the red, which produce no effect upon vision, would be converted into red rays, and fill up the part of the spectrum deserted by the rays originally red. In the latter, the violet rays would indeed become indigo; but the rays beyond the violet, ordinarily producing no effect, would be converted into violet rays, and fill up the part of the spectrum deserted by the rays originally violet. Thus, despite the enormous velocity of approach in one case and of recession in the other, there would be no change whatever in the color of the sun in either case. All the colors of the rainbow would still be present in the sun's light, and it would therefore still be a white sun.

Doppler's method would thus fail utterly, even though the stars were travelling hither and thither with motions a hundred times greater than the greatest known stellar motions.

This objection to Doppler's theory, as originally proposed, was considered by me in an article on "Colored Suns" in *Fraser's Magazine* for January, 1868. His theory, indeed, was originally promulgated not as affording a means of measuring stellar motions, but as a way of accounting for the colors of double stars. It was thus presented by Professor Nichol, in a chapter of his "Architecture of the Heavens," on this special subject:—

"The rapid motion of light reaches indeed one of those numbers which reason owns, while imagination ceases to comprehend them; but it is also true that the swiftness with which certain individuals of the double stars sweep past their perihelias, or rather their periastrs, is amazing; and in this matter of colors, it must be recollected that the question solely regards the difference between the velocities of the waves constituent of colors, at those different stellar positions. Still it is a bold—even a magnificent idea; and if it can be reconciled with the permanent colors of the multitude of stars surrounding us—stars which too are moving in great orbits with immense velocities—it may be hailed almost as a positive discovery. It must obtain confirmation, or otherwise, so soon as we can compare with certainty the observed colorific changes of separate systems with the known fluctuations of their orbital motions."

That was written a quarter of a century ago, when spectroscopic analysis, as we now know it, had no existence. Accordingly, while the fatal objection to Doppler's original theory is overlooked on the one hand, the means of applying the principle underlying the theory, in a much more exact manner than Doppler could have hoped for, is overlooked on the other. Both points are noted in the article above referred to, in the same paragraph. "We may dismiss," I there stated, "the theory started some years ago by the French astronomer, M. Doppler." But, I presently added, "It is quite clear that the effects of a motion rapid enough to produce such a change" (*i.e.* a change of tint in a pure color) "would shift the position of the whole spectrum—and this change would be readily detected by a reference to the spectral lines." This is true, even to the word "readily." Velocities which would produce an appreciable change of tint would produce "readily" detectable changes in the position of the spectral lines; the velocities actually existing among the star-motions would produce changes in the position

of these lines detectible only with extreme difficulty, or perhaps in the majority of instances not detectible at all.

It has been in this way that the spectroscopic method has actually been applied.

It is easy to perceive the essential difference between this way of applying the method and that depending on the attempted recognition of changes of color. A dark line in the spectrum marks in reality the place of a missing tint. The tints next to it on either side are present, but the tint between them is wanting. They are changed in color—very slightly, in fact quite inappreciably—by motion of recession or approach, or, in other words, they are shifted in position along the spectrum, towards the red end for recession, towards the violet end for approach; and, of course, the dark space between is shifted along with them. One may say that the missing tint is changed. For in reality that is precisely what would happen. If the light of a star at rest gave every tint of the spectrum, for instance, except mid-green alone, and that star approached or receded so swiftly that its motion would change pure green light to pure yellow in one case, or pure blue in the other, then the effect on the spectrum of such a star would be to throw the dark line from the middle of the green part of the spectrum to the middle of the yellow part in one case, or to the middle of the blue part in the other. The dark line would be quite notably shifted in either case. With the actual stellar motions, though all the lines are more or less shifted, the displacement is always exceedingly minute, and it becomes a task of extreme difficulty to recognize, and still more to measure, such displacement.

When I first indicated publicly (January, 1868) the way in which Doppler's principle could alone be applied, two physicists, Huggins in England and Secchi in Italy, were actually endeavoring, with the excellent spectroscopes in their possession, to apply this method. In March, 1868, Secchi gave up the effort as useless, publicly announcing the plan on which he had proceeded and his failure to obtain any results except negative ones. A month later Huggins also publicly announced the plan on which he had been working, but was also able to

state that in one case, that of the bright star Sirius, he had succeeded in measuring a motion in the line of sight, having discovered that Sirius was receding from the earth at the rate of 41.4 miles per second. I say *was* receding, because a part of the recession at the time of observation was due to the earth's orbital motion around the sun. I had, at his request, supplied Huggins with the formula for calculating the correction due to this cause, and, applying it, he found that Sirius is receding from the sun at the rate of about 29 miles per second, or some 930 millions of miles per annum.

I am not here specially concerned to consider the actual results of the application of this method since the time of Huggins's first success; but the next chapter of the history of the method is one so interesting to myself personally that I feel tempted briefly to refer to details. So soon as I had heard of Huggins's success with Sirius, and that an instrument was being prepared for him wherewith he might hope to extend the method to other stars, I ventured to make a prediction as to the result which he would obtain whensoever he should apply it to five stars of the seven forming the so-called Plough. I had found reason to feel assured that these five form a system drifting all together amid stellar space. Satisfied for my own part as to the validity of the evidence, I submitted it to Sir J. Herschel, who was struck by its force. The apparent drift of those stars was, of course, a thwart drift; but if they really were drifting in space, then their motions in the line of sight must of necessity be alike. My prediction, then, was that whensoever Mr. Huggins applied to those stars the new method he would find them either all receding at the same rate, or all approaching at the same rate, or else that all *alike* failed to give any evidence at all either of recession or approach. I had indicated the five in the first edition of my "Other Worlds"—to wit, the stars of the Plough, omitting the nearest "pointer" to the pole and the star marking the third horse (or the tip of the Great Bear's tail). So soon as Huggins's new telescope and its spectroscopic adjuncts were in working order, he re-examined Sirius, determined the motions of other stars, and, at last, on one suitable even-

ing he tested the stars of the Plough. He began with the nearest pointer, and found that star swiftly approaching the earth. He turned to the other pointer, and found it rapidly receding from the earth. Being under the impression that my five included both pointers, he concluded that my prediction had utterly failed, and so went on with his observations altogether unprejudiced in its favor, to say the least. The next star of the seven he found to be receding at the same rate as the second pointer; the next at the same rate, the next, and the next receding still at the same rate, and lastly the seventh receding at a different rate. Here, then, were five stars all receding at a common rate, and of the other two one receding at a different rate, the other swiftly approaching. Turning next to the work containing my prediction, Huggins found that the five stars thus receding at a common rate were the five whose community of motion I had indicated two years before. Thus the first prediction ever made respecting the motions of the so-called fixed stars was not wanting in success. I would venture to add that the theory of star-drift, on the strength of which the prediction was made, was effectively confirmed by the result.

The next application of the new method was one of singular interest. I believe it was Mr. Lockyer who first thought of applying the method to measure the rate of solar hurricanes as well as the velocities of the uprush and downrush of vaporous matter in the atmosphere of the sun. Another spectroscopic method had enabled astronomers to watch the rush of glowing matter from the edge of the sun, by observing the colored flames and their motions; but by the new method it was possible to determine whether the flames at the edge were swept by solar cyclones carrying them from or towards the eye of the terrestrial observer, and also to determine whether glowing vapors over the middle of the visible disc were subject to motion of uprush, which of course would carry them towards the eye, or of downrush, which would carry them from the eye. The result of observations directed to this end was to show that at least during the time when the sun is most spotted, solar hurricanes of tremendous violence take

place, while the uprushing and downrushing motions of solar matter sometimes attain a velocity of more than 100 miles per second.

It was this success on the part of an English spectroscopist which caused the attack on the new method against which it has but recently been successfully defended, at least in the eyes of those who are satisfied only by experimental tests of the validity of a process. The Padre Secchi had failed, as we have seen, to recognize motions of recession and approach among the stars by the new method. But he had taken solar observation by spectroscopic methods under his special charge, and therefore when the new results reached his ears he felt bound to confirm or invalidate them. He believed that the apparent displacement of dark lines in the solar spectrum might be due to the heat of the sun causing changes in the delicate adjustments of the instrument—a cause of error against which precautions are certainly very necessary. He satisfied himself that when sufficient precautions are taken no displacements take place such as Lockyer, Young, and others claimed to have seen. But he submitted the matter to a farther test. As the sun is spinning swiftly on his axis, his mighty equator, more than two and a half millions of miles in girth, circling once round in about twenty-four days, it is clear that on one side the sun's surface is swiftly moving *towards*, and on the other side as swiftly moving *from*, the observer. By some amazing miscalculation Secchi made the rate of this motion 20 miles per second, so that the sum of the two motions in opposite directions would equal 40 miles per second. He considered that he ought to be able by the new method, if the new method is trustworthy at all, to recognize this marked difference between the state of the sun's eastern and western edges; found on trial that he could not do so; and accordingly expressed his opinion that the new method is not trustworthy, and that the arguments urged in its favor are invalid.

The weak point in his reasoning resided in the circumstance that the solar equator is only moving at the rate of about $1\frac{1}{2}$ miles per second, so that instead of a difference of 40 miles per second between the two edges, which

should be appreciable, the actual difference (that is, the sum of the two equal motions in opposite directions) amounts only to $2\frac{1}{2}$ miles per second, which certainly Secchi could not hope to recognize with the spectroscopic power at his disposal. Nevertheless when the error in his reasoning was pointed out, though he admitted that error, he maintained the justice of his conclusion; just as Cassini, having mistakenly reasoned that the degrees of latitude should diminish towards the pole instead of increasing, and having next mistakenly found, as he supposed, that they do diminish, acknowledged the error of his reasoning, but insisted on the validity of his observations; maintaining thenceforth, as all the world knows, that the earth is extended instead of flattened at the poles.

Huggins tried to recognize by the new method the effects of the sun's rotation, using a much more powerful spectro-scope than Secchi had employed. The history of the particular spectroscope he employed is in one respect specially interesting to myself, as the extension of spectroscopic power was of my own devising before I had ever used or even seen a powerful spectroscope. The reader is aware that spectroscopes derive their light-sifting power from the prisms forming them. The number of prisms was gradually increased, from Newton's single prism to Fraunhofer's pair, Kirchhoff's battery of four, till six were used, which bent the light round as far as it would go. Then the idea occurred of carrying the light to a higher level (by reflections) and sending it back through the same battery of prisms, doubling the dispersion. Such a battery, if of six prisms, would spread the spectral colors twice as widely apart as six used in the ordinary way, and would thus have a dispersive power of twelve prisms. It occurred to me that after taking the rays through six prisms, arranged in a curve like the letter C, an intermediate four-cornered prism of a particular shape (which I determined) might be made to send the rays into another battery of six prisms, the entire set forming a double curve like the letter S, the rays being then carried to a higher level and back through the double battery. In this way a dispersive power of nineteen prisms

could be secured. My friend Mr. Brown-ing, the eminent optician, made a double battery of this kind,* which was purchased by Mr. W. Spottiswoode, and by him lent to Mr. Huggins for the express purpose of dealing with the task Secchi had set spectroscopists. It did not, however, afford the required evidence. Huggins considered the displacement of dark lines due to the sun's rotation to be recognizable, but so barely that he could not speak confidently on the point.

There for a while the matter rested. Vögel made observations confirming Huggins's results relative to stellar motions; but Vögel's instrumental means were not sufficiently powerful to render his results of much weight.

But recently two well-directed attacks have been made upon this problem, one in England, the other in America, and in both cases with success. Rather, perhaps, seeing that the method had been attacked and was supposed to require defence, we may say that two well-directed assaults have been made upon the attacking party, which has been completely routed.

Arrangements were made not very long ago, by which the astronomical work of Greenwich Observatory, for a long time directed almost exclusively to time observations, should include the study of the sun, stars, planets, and so forth. Amongst other work which was considered suited to the national observatory was the application of spectroscopic analysis to determine motions of recession and approach among the celestial bodies. Some of these observations, by the way, were made, we are told, "to test the truth of Doppler's principle," though it seems difficult to suppose for an instant that mathematicians so skilful

* I have omitted all reference to details; but in reality the double battery was automatic, the motion of the observing telescope, as different colors of the spectrum were brought into view, setting all the prisms of the double battery into that precise position which causes them to show best each particular part of the spectrum thus brought into view. It is rather singular that the first view I ever had of the solar prominences, was obtained (at Dr. Huggins's observatory) with this instrument of my own invention, which also was the first powerful spectroscope I had ever used or even seen.

as the chief of the Observatory and some of his assistants could entertain any doubt on that point. Probably it was intended by the words just quoted to imply simply that some of the observations were made for the purpose of illustrating the principle of the method. We are not to suppose that on a point so simple the Greenwich observers have been in any sort of doubt.

At first their results were not very satisfactory. The difficulties which had for a long time foiled Huggins, and which Secchi has never been able to master, rendered the first Greenwich measures of stellar motions in the line of sight wildly inconsistent, not only with Huggins's results, but with each other. Secchi was not slow to note this, and a short time ago he renewed his objections to the new method of observation, pointing and illustrating his objections by referring to the discrepancies among the Greenwich results. But recently a fresh series of results has been published, showing that the observers at Greenwich have succeeded in mastering some at least among the difficulties which they had before experienced. The measurements of star-motions showed now a satisfactory agreement with Huggins's results, and their range of divergence among themselves was greatly reduced. The chief interest of the new results, however, lay in the observations made upon bodies known to be in motion in the line of sight at rates already measured. These observations, though not wanted as tests of the accuracy of the principle, were very necessary as tests of the accuracy of the instruments used in applying it. It is here and thus that Secchi's objections alone required to be met, and here and thus they have been thoroughly disposed of. Let us consider what means exist within the solar system for thus testing the new method.

The earth travels along in her orbit at the rate of about $18\frac{1}{2}$ miles in every second of time. Not to enter into niceties which could only properly be dealt with mathematically, it may be said that with this full velocity she is at times approaching the remoter planets of the system, and at times receding from them; so that here at once is a range of difference amounting to about 37 miles per second, and fairly within the power of the new

method of observation. For it matters nothing, so far as the new method is concerned, whether the earth is approaching another orb by her motion, or that orb approaching by its own motion. Again, the planet Venus travels at the rate of about $21\frac{1}{2}$ miles per second, but as the earth travels only 3 miles a second less swiftly, and the same way round, only a small portion of Venus's motion ever appears as a motion of approach towards or recession from the earth. Still Venus is sometimes approaching and sometimes receding from the earth, at a rate of more than 8 miles per second. Her light is much brighter than that of Jupiter or Saturn, and accordingly this smaller rate of motion would be probably more easily recognized than the greater rate at which the giant planets are sometimes approaching and at other times receding from the earth. At least the Greenwich observers seem to have confined their attention to Venus, so far as motions of planets in the line of sight are concerned. The moon, as a body which keeps always at nearly the same distance from us, would of course be the last in the world to be selected to give positive evidence in favor of the new method; but she serves to afford a useful test of the accuracy of the instruments employed. If when these were applied to her they gave evidence of motions of recession or approach at the rate of several miles per second, when we know as a matter of fact that the moon's distance never * varies by more than 30,000 miles during the lunar month, and her rate of approach or recession thus averaging about one-fiftieth part of a mile per second, discredit would be thrown on the new method—not, indeed, as regards its principle, which no competent reasoner can for a moment question, but as regards the possibility of practically applying it with our present instrumental means.

Observations have been made at Greenwich, both on Venus and on the moon, by the new method, with results entirely satisfactory. The method shows that Venus is receding when she is known to be receding, and that she is

* It varies more in some months than in others, as the moon's orbit changes in shape under the various perturbing influences to which she is subject.

approaching when she is known to be approaching; and the method shows no signs of approach or recession in the moon's case, and is thus in satisfactory agreement with the known facts. Of course these results are open to the objection that the observers have known beforehand what to expect, and that expectation often deceives the mind, especially in cases where the thing to be observed is not at all easy to recognize. It will presently be seen that the new method has been more satisfactorily tested, in this respect, in other ways. It may be partly due to the effect of expectation that in the case of Venus the motions of approach and recession, tested by the new method, have always been somewhat too great. A part of the excess may be due to the use of the measure of the sun's distance, and therefore the measures of the dimensions of the solar system, in vogue before the recent transit. These measures fall short to some degree of those which result from the observations made in December, 1874, on Venus in transit, the sun's distance being estimated at about 91,400,000 miles instead of 92,000,000 miles, which would seem to be nearer the real distance. Of course all the motions within the solar system would be correspondingly under-estimated. On the other hand, the new method would give all velocities with absolute correctness if instrumental difficulties could be overcome. The difference between the real velocities of Venus approaching and receding, and those calculated according to the present inexact estimate of the sun's distance, is however much less than the observed discrepancy, doubtless due to the difficulties involved in the application of this most difficult method. I note the point, chiefly for the sake of mentioning the circumstance that theoretically the method affords a new means of measuring the dimensions of the solar system. Whensoever the practical application of the method has been so far improved that the rate of approach or recession of Venus, or Mercury, or Jupiter, or Saturn (any one of these planets) can be determined on any occasion, with great nicety, we can at once infer the sun's distance with corresponding exactness. Considering that the method has not been invented ten years (setting

aside Doppler's first vague ideas respecting it), and that spectroscopic analysis as a method of exact observation is as yet little more than a quarter of a century old, we may fairly hope that in the years to come the new method, already successfully applied to measure motions of recession and approach at the rate of 20 or 30 miles per second, will be employed successfully in measuring much smaller velocities. Then will it give us a new method of measuring the great base-line of astronomical surveying—the distance of our world from the centre of the solar system.

That this will one day happen is rendered highly probable, in my opinion, by the successes next to be related.

Besides the motions of the planets around the sun, there are their motions of rotation, and the rotation of the sun himself upon his axis. Some among these turning motions are sufficiently rapid to be dealt with by the new method. The most rapid rotational motion with which we are acquainted from actual observation is that of the planet Jupiter. The circuit of his equator amounts to about 267,000 miles, and he turns once on his axis in a few minutes less than ten hours, so that his equatorial surface travels at the rate of about 26,700 miles an hour, or nearly $7\frac{1}{2}$ miles per second. Thus between the advancing and retreating sides of the equator there is a difference of motion in the line of sight amounting to nearly 15 miles. But this is not all. Jupiter shines by reflecting sunlight. Now it is easily seen that where his turning equator meets the waves of light from the sun, these are shortened, in the same sense that waves are shortened for a swimmer travelling to meet them, while these waves, already shortened in this way, are further shortened when starting from the same advancing surface of Jupiter, on their journey to us after reflection. In this way the shortening of the waves is double, at least when the earth is so placed that Jupiter lies in the same direction from us as from the sun, the very time, in fact, when Jupiter is most favorably placed for ordinary observation or at his highest due south, when the sun is at his lowest below the northern horizon—that is, at midnight. The lengthening of the waves is similarly doubled at this

most favorable time for observation ; and the actual difference between the motion of the two sides of Jupiter's equator being nearly 15 miles per second, the effect on the light-waves is equivalent to that due to a difference of nearly 30 miles per second. Thus the new method may fairly be expected to indicate Jupiter's motion of rotation. The Greenwich observers have succeeded in applying it, though Jupiter has not been favorably situated for observation. Only on one occasion, says Sir G. Airy, was the spectrum of Jupiter "seen fairly well," and on that occasion "measures were obtained which gave a result in remarkable agreement with the calculated value." It may well be hoped that when in the course of a few years Jupiter returns to that part of his course where he rises high above the horizon, shining more brightly and through a less perturbed air, the new method will be still more successfully applied. We may even hope to see it extended to Saturn, not merely to confirm the measures already made of Saturn's rotation, but to resolve the doubts which exist as to the rotation of Saturn's ring-system.

Lastly, there remains the rotation of the sun, a movement much more difficult to detect by the new method, because the actual rate of motion even at the sun's equator amounts only to about 1 mile per second.

In dealing with this very difficult task, the hardest which spectroscopists have yet attempted, the Greenwich observers have achieved an undoubted success ; but unfortunately for them, though fortunately for science, another observatory, far smaller and of much less celebrity, has at the critical moment achieved success still more complete.

The astronomers at our national observatory have been able to recognize by the new method the turning motion of the sun upon his axis. And here we have not, as in the case of Venus, to record merely that the observers have seen what they expected to see because of the known motion of the sun. "Particular care was taken," says Airy, "to avoid any bias from previous knowledge of the direction in which a displacement" (of the spectral lines) "was to be expected," the side of the sun under observation

not being known by the observer until after the observation was completed.

But Professor Young, at Dartmouth College, Hanover, N. H., has done much more than merely obtain evidence by the new method that the sun is rotating as we already knew. He has succeeded so perfectly in mastering the instrumental and observational difficulties, as absolutely to be able to rely on his *measurement* (as distinguished from the mere recognition) of the sun's motion of rotation. The manner in which he has extended the powers of ordinary spectroscopic analysis, cannot very readily be described in these pages, simply because the principles on which the extension depends require for their complete description a reference to mathematical considerations of some complexity. Let it be simply noted that what is called the diffractive spectrum, obtained by using a finely-lined plate, results from the dispersive action of such a plate, or *grating* as it is technically called, and this dispersive power can be readily combined with that of a spectroscope of the ordinary kind. Now Dr. Rutherford of New York has succeeded in ruling so many thousand lines on glass within the breadth of a single inch as to produce a grating of high dispersive power. Availing himself of this beautiful extension of spectroscopic powers, Professor Young has succeeded in recognizing effects of much smaller motions of recession and approach than had before been observable by the new method. He has thus been able to measure the rotation-rate of the sun's equatorial regions. His result exceeds considerably that inferred from the telescopic observation of the solar spots. For whereas from the motion of the spots a rotation-rate of about $1\frac{1}{4}$ miles per second has been calculated for the sun's equator, Professor Young obtains from his spectroscopic observations a rate of rather more than $1\frac{1}{2}$ miles, or about 300 yards per second more than the telescopic rate.

If Young had been measuring the motion of the same matter which is observed with the telescope, there could of course be no doubt that the telescope was right and the spectroscope wrong. We might add a few yards per second for the probably greater distance of the

sun resulting from recent transit observations. For of course with an increase in our estimate of the sun's distance there comes an increase in our estimate of the sun's dimensions, and of the velocity of the rotational motion of his surface; but only about 12 yards per second could be allowed on this account, the rest would have to be regarded as an error due to the difficulties involved in the spectroscopic method. But in reality the telescopic and the spectroscopic observe different things in determining by their respective methods the sun's motion of rotation. The former observes the motion of the spots, belonging to the sun's visible surface; the latter observes the motion of the glowing vapors outside that surface, for it is from these vapors, not from the surface of the sun, that the dark lines of the spectrum proceed. Now so confident is Professor Young of the accuracy of his spectroscopic observations, that he is prepared to regard the seeming difference of velocity between the atmosphere and surface of the sun as real. He believes that "the solar atmosphere really sweeps forward over the underlying surface, in the same way that the equatorial regions outstrip the other parts of the sun's surface." This inference, important and interesting in itself, is far more important in what it involves. For if we can accept it, it follows that the spectroscopic method of measuring the velocity of motions in the line of sight is competent, under favorable conditions, to obtain results accurate within a few hundred yards per second, or 10 or 12 miles per minute. If this shall really prove to be true for the method now, less than nine years after it was first successfully applied, what may we not hope from the method in future years? Spectroscopic analysis itself is

in its infancy, and this method is but a recent application of spectroscopy. A century or so hence astronomers will smile (though not disdainfully) at these feeble efforts, much as we smile now in contemplating the puny telescopes with which Galileo and his contemporaries studied the star-depths. And we may well believe that largely as the knowledge gained by telescopists in our own time surpasses that which Galileo obtained, so will spectroscopists a few generations hence have gained a far wider and deeper insight into the constitution and movements of the stellar universe than the spectroscopists of our own day dare even hope to attain. I venture confidently to predict that, with that insight, astronomers will recognize in the universe of stars a variety of structure, a complexity of arrangement, an abundance of every form of cosmical vitality, such as I have been led by other considerations to suggest, not the mere cloven lamina of uniformly scattered stars more or less resembling our sun, and all in nearly the same stage of cosmical development, which the books of astronomy not many years since agreed in describing. The history of astronomical progress does not render it probable that the reasoning already advanced, though in reality demonstrative, will convince the generality of science-students until direct and easily understood observations have shown the real nature of the constitution of that part of the universe over which astronomical survey extends. But the evidence already obtained, though its thorough analysis may be "*caviare to the general*," suffices to show the real nature of the relations which one day will come within the direct scope of astronomical observation.—*Contemporary Review*.

ROUND THE WORLD IN A YACHT.*

BY THOMAS BRASSEY, M.P.

I.

IN admitting into the pages of the *Nineteenth Century* a narrative of an

amateur voyage of circumnavigation, I fear that the Editor runs a risk of descending into a sphere too narrow in its scope to deserve the attention of a large public.

But as he decides to run that risk I make no further apology, and address

* With the exception of the introductory remarks, the following paper is wholly composed of extracts from the author's note-book, written afloat and for the most part at sea.

myself at once to the task which I have been requested to undertake. I commence with a general outline of the voyage, and shall subsequently fill in the details of the picture, which, unless connected together at the commencement by a slight sketch of the whole cruise, would be seen in a disjointed and fragmentary aspect.

The expedition was in some respects unprecedented; and the most exceptional feature was the little company of passengers. They included Mrs. Brassey and our four children. The youngest was less than two years of age, and has returned to England in robust health. A voyage of circumnavigation is an ordinary undertaking for a professional seaman; but it was no inconsiderable effort for a lady to exchange the luxuries of an English home for an uneasy residence of eleven months on the rolling sea. And what shall be said of the nurses? True daughters of their Scandinavian forefathers, they accepted the unusual and trying conditions of their sea life with undaunted spirit, and showed no symptoms either of fear or discontent from the day of their departure to the hour of their final disembarkation. A circumnavigation of 35,400 miles has never before been made in the short period of 46 weeks, from which must be deducted 112 days of well-earned repose in harbor. We had, it is true, the advantage of steam, without which such a performance would have been an impossibility; but we travelled 20,517 miles under sail alone, and the consumption of coal has not exceeded 400 tons.

The 'Sunbeam' sailed from Cowes on the 6th of July, 1876, put into Torbay on the following day, resumed her voyage on the 8th, and reached Madeira on the 16th of July. Strong winds were experienced in the Channel, and a fresh gale from the north-east off Cape Finisterre. South of the latitude of Lisbon calms prevailed. In this stage of the voyage 353 miles were traversed under steam, and 886 miles under sail.

Leaving Madeira on the 20th of July, we called at Orotava, for the ascent of the Peak of Teneriffe, and at Tarafal Bay, in the island of San Antonio, one of the Cape de Verdes, for provisions, arriving at Rio de Janeiro on the 17th of August. We sailed before the north-

east trades from Teneriffe to Tarafal Bay, and thence pursued our voyage across the Atlantic to Rio.

The 'Sunbeam' again put to sea on the 5th of September, and in six days reached Montevideo. On the 8th and 9th a gale blew from the north-east; the distances sailed under reefed canvas on these two days being 243 and 270 knots respectively. During our stay in the River Plate we spent a fortnight at Buenos Ayres, and made excursions to Rosario and Cordova, and to Azul, on the southern frontier; we afterwards visited Ensenada.

The voyage was resumed on the 28th of September, and on the 6th of October we arrived at Sandy Point, in the Straits of Magellan. On this passage we rescued a crew of fifteen hands from the barque 'Monks' Haven,' bound from Cardiff to Valparaiso with a cargo of smelting coals. On the 2nd of October we encountered a gale from the south-west, but escaped its full effects by closing with the coast of Patagonia.

The voyage was continued through the Straits of Magellan and Smyth's Channel. It was our happy fortune to see the magnificent mountains of those 'stern and wild' regions in most auspicious weather. The distance from the eastern entrance to the Straits of Magellan to the northern outlet from Smyth's Channel into the Gulf of Penas was 659 miles. We made the passage under steam in seventy-six hours. Aided by the admirable charts from the surveys of Captain King, Admiral Fitzroy, and Captain Mayne, C.B., we were enabled to navigate these intricate channels at full speed, and find well-sheltered anchorages every night.

Lota was our first port on the coast of Chili, and on the 21st of October we reached Valparaiso. After a stay of nine days in that busy but ill-protected harbor, we proceeded on our long and lonely voyage of 12,333 miles across the Pacific to Yokohama. We touched at Bow Island in the Low Archipelago, at Maitea and Tahiti in the Society Islands, at Hawaii and Honolulu, in the Sandwich Islands, sighted Assumption, an isolated extinct volcano in the Ladrones, on the 21st of January, and arrived at Yokohama on the 29th. We had made the passage from Valparaiso in seventy-two days

at sea, and had indulged ourselves in only seventeen days of rest and relaxation in harbor. By far the greater part of this passage was made in the favored region of the trade winds, no severe weather having been encountered until we entered the Kuro Siwo, or warm Japan current, a sea not less stormy than the Gulf Stream of the Atlantic, and probably rendered boisterous from similar causes.

After a short stay at Yokohama we proceeded to Kobe, in the Inland Sea, and attended the opening of the railway to Kioto by the Mikado. From Kobe we steamed through the Inland Sea in truly winterly weather to Simonoseki, where we found the people much agitated by the recent insurrection of the Satsuma clan. Bidding farewell to Japan with regret, we steamed to the southward. We issued forth from the Inland Sea by the Boungo Channel, through which Admiral Kuper conducted the combined fleets to the bombardment of Simonoseki, but which has since been rarely used. Passing between the Linschoten Islands, many of which are active volcanoes, and the Liukiu group, we entered the Formosa Channel on the 24th of February, on which day, aided by the current, and running before a strong north-east monsoon, we made good upwards of 300 knots under sail only. This was the best performance of the voyage. On the following evening we arrived off Hongkong.

We sailed from Hongkong on the 7th of March, touched at Macao on the same day, ran down the China Sea before pleasant north-east breezes, and reached Singapore on the 17th of March. After calling at Johore, Malacca, and Penang, we crossed the Indian Ocean, in calm and oppressively hot weather, and arrived at Galle on the 29th, and Colombo on the 30th of March.

On the 5th of April we were 'once more upon the waters,' and on the 15th, having steamed the whole distance of 2,100 miles, we reached Aden. Here we remained a few hours only, and, after coaling, resumed our voyage under sail, with a fresh breeze from the south-east in our favor, which carried us through the Straits of Bab-el-Mandeb and up the Red Sea for a distance of 350 miles from Aden. The wind subsiding to a

calm, we proceeded under steam until the afternoon of the 22nd, when we encountered a strong northerly gale, blowing in heavy gusts off the high mountains of the Sinaitic peninsula. We worked up to and through the Straits of Zubal under steam and sail, and up the Gulf of Suez under sail only.

The importance of the Suez Canal is abundantly testified to the traveller in Eastern waters by the frequency with which he meets large steamers carrying the British flag. While upwards of a thousand British vessels pass through the canal every year, no other nation sends so many as one hundred; and of the foreign vessels by far the greater number are maintained by liberal subsidies. All the French steamers, save one, which makes an annual voyage to Madagascar, are largely subsidised. It is a significant circumstance that no vessel of the merchant service of the United States, and only two steamers bearing the Belgian flag, have passed through the canal. The Norwegian flag, which is displayed so widely in other waters, is scarcely ever seen at Suez.

The 'Sunbeam' steamed through the canal in two days, and reached Alexandria on the 29th of April, after a boisterous passage of two days from Port Said. We sailed from Alexandria on the 2nd of May. For three days the wind was so strong from the west that it would have been impossible to gain any advantage by the use of our auxiliary steam-power. We accordingly stood to the north-west, close hauled, under reefed canvas, and made the island of Crete on the evening of the 5th. Here the wind shifted to the south-east, enabling us to press forward under steam and sail, and reach Malta on the 8th of May.

We arrived at Gibraltar on the 16th, having made the passage, against westerly winds of varying force, in six days. After a stay of sixteen hours only, we weighed anchor at 8 P.M., and proceeded under sail, before a strong easterly wind, through the Straits of Gibraltar. The next day the wind subsided, and at 7 P.M. we were under steam.

On the coast of Portugal we encountered such strong head winds that we put into Lisbon for two days for shelter; and off Cape Finisterre we were hove to for two days under reefed canvas. Even

when the weather moderated, the winds continued unfavorable, and we completed the voyage under steam, arriving off Cowes on the 26th, and finally landing at Hastings on the following day.

Before entering upon other matters, the little vessel which has carried us so rapidly and safely over 36,000 miles of ocean claims a brief description. She was designed by Mr. St. Clare Byrne, of Liverpool, and may be technically defined as a composite three-masted top-sail-yard screw schooner. The engines, by Messrs. Laird, are of 70 nominal or 350 indicated horse-power, and developed a speed of 10·13 knots on the measured mile. The bunkers contain 80 tons of coal. The average daily consumption is 4 tons, and the speed 8 knots in fine weather. The principal dimensions of the hull are—

Length for tonnage.....	157 feet
Beam extreme.....	27·6 inches.
Displacement tonnage.....	531 tons
Area of midship section.....	202 square feet.

With an addition of twenty feet to the length, and more engine power, the 'Sunbeam' presents a type which might be found very efficient for naval services in distant waters where good sailing qualities are essential, and large ships are not required. A heavy gun could be carried amidships, which should be provided with gear for lowering into the hold in stormy weather.

Our voyage has been abundant in illustrations of the advantages of steam-power, of weatherliness under sail, buoyancy in a short confused sea—indeed, of all the qualities which go to make a perfect cruiser. How hard a problem it is to the advanced science of the present day to unite in any single model these various elements!

It is not pretended that the 'Sunbeam' was without faults; yet, even in the production of so small a vessel—her hull, engines, and equipments—what a combination there is of mental skill, manual effort, experience, and experiment!

On looking back and contrasting the anticipated difficulties with the practical experiences of the voyage, the ease and certainty with which every passage has been made are truly surprising. Our track has been for the most part within the tropics. The storms off the Cape of

Good Hope and Cape Horn have been avoided in the inland passages of the Straits of Magellan and the Suez Canal. We have met with no continuous stormy weather, except during the four days preceding our arrival at Yokohama. In one of these squalls the jib-boom and topgallant-mast were carried away. No other spars were lost during the voyage. We have suffered discomfort from heat, and detention in calms; but storms have disturbed us seldom, and they have not lasted long.

The navigation presented few difficulties. All the coasts that we have visited have been surveyed. In this important work the officers of the British Survey have taken a prominent part, and they deserve the highest praise for their care and accuracy.

Lighthouses are no longer confined to European waters. In China and Japan the sinuosities of the coast are defined at night by a complete and methodical illumination.

The perfection to which the manufacture of chronometers has been brought is a very valuable help to the navigator. Lunar observations, the only really difficult work in ocean navigation, are now no longer necessary. Not being lunarians, we are much beholden to our chronometers by Brockbank and Atkins, which kept their time most admirably, and enabled us invariably to make a good landfall.

The uniform excellence of the Admiralty sailing directions makes it the more to be regretted that none have as yet been prepared for some extensive and much-frequented seas. The Admiralty have published no complete manual for the Pacific, and, what is still more remarkable, they have wholly neglected the Mediterranean.

The wind charts and sailing directions published by the Admiralty are not less deserving of mention. The information they contain for the Atlantic, the China seas, and the Indian Ocean is most ample. With the aid of these publications, the inexperienced navigator may confidently select the best point for crossing the line at any season of the year. He will form a very fair idea of the weather he will probably experience, and can lay down his track for distant voyages, so as to use the prevailing winds to the best

advantage. Modern navigators owe a great debt of gratitude to Lieutenant Maury of the United States Navy, to Admiral Richards, Captain Evans, Commander Hull, and the officers of our own Hydrographic Office, and to the investigations of the Dutch.

Apart from the discovery of certain general laws which are universally observed in cases of extreme weather disturbance, the progress of the science of meteorology has hitherto been slow and disappointing. No more conclusive proof of the uncertainty in which the subject is still enveloped could be cited than the statement, made last year by Mr. Warren de la Rue, in his evidence as a witness before the Treasury Committee on Meteorology. He said that for three years each member of the Committee of the Royal Society, under whose superintendence the Meteorological Office has been managed, had received every day, by the evening post, a forecast of the probable weather in London on the following day. The result had been a 'mottled success;' or, in other words, the prediction was as often wrong as right. The Treasury Committee very properly reported that 'there was important evidence that the science of meteorology at the present time stands in need of hypothesis and discussion at least as much as, if not more than, of observation.'

While we have attained a considerable knowledge of the average weather, for extended periods, in all those regions of the globe where we have an important maritime trade, we are still without a clue to guide us in determining the probable changes of the weather from day to day. The discovery of the laws which govern the movements of the atmosphere must not, however, be regarded as hopeless; and the methodical system of observation, now established by international agreement among all civilised nations, must lead in the end to some useful results.

While life at sea is fresh in my recollection, I shall venture to particularise some of the hardships of the sailor, with which I have learned to sympathise more keenly after spending eleven months afloat. The life of the sailor is too monotonous. To spend 160 days at sea with the mongrel associates that the fore-

castle ordinarily affords is enough to distress the gayest spirits. It is a life of privation to live on salt beef, salt pork, salt butter, and hard biscuit, even when these provisions are of undeniable quality; but when this condition of things has to be endured for weeks together, beneath a vertical sun, with the thermometer at 90° —when there are no steady breezes, and the anxious skipper is for ever calling upon his crew to trim the sails to every catspaw—the severity of the ordeal is increased tenfold. It is a life of hardship to do battle for long weeks, under close reefs, in the stormy seas south of the Cape of Good Hope, or to scud round the Horn, surrounded by icebergs, with sails and rigging frozen, and with no suitable clothing.

Under an almost vertical sun, only six degrees north of the equator, and in the torrid heat of the tropics, I was forcibly reminded of the discomfort—nay, the suffering—caused by constant and extreme vicissitudes of climate. Not a month had elapsed since the 'Sunbeam' was covered every morning by a sheet of ice, formed over the deck in a few minutes as soon as sea-water was pumped up for the usual daily scrubbing.

Fifteen days' sail from ice-bound Simonoseki brought us to Singapore, in latitude only one degree north from the equator, where the thermometer registered 90° in a roomy and well ventilated cabin, and where for several hours in the day no European, who can avoid it, ventures out of doors. A thoughtful commander will endeavor to modify the routine of work afloat in accordance with the variations of climate, yet in the exigencies of a sea life the necessity may arise for extra exertions at any moment. The present writer well remembers how it happened, in his own case, that it was during the hottest hours of the day, in the burning month of March, that the 'Sunbeam' was coaled and removed from the wharf in the new harbor to the outer roadstead at Singapore; that at noon on the two succeeding days the services of the men were required in the boats at Singapore and Johore; and that between noon and 1 P.M. on the fourth day, the anchor, with fifty fathoms of chain outside the hawse, was weighed by manual labor off Malacca. No limit was placed on the supply of

limes, lime juice, and fresh fruit to the crew of the 'Sunbeam.' How inferior inevitably must be the rations supplied on board a merchant ship on a long voyage, touching at no port for the space of a hundred and forty days! The crews must subsist chiefly on a diet which is not inviting in the appetising atmosphere of the Arctic or Antarctic zones, and which must be positively repugnant to unfortunate Europeans, panting and sore athirst, in a protracted calm on the line. None but those who have been long at sea in the tropics can fully appreciate that it is not storm and tempest, nor yet rain and cold, but heat, intolerable and long-enduring heat, which causes the most intense discomfort to the seamen in the foreign trade.

Life before the mast was described with his usual vigor by Dr. Johnson, in one of those conversations so tenaciously remembered by the admiring Boswell.

As to the sailor (said the great moralist), when you look down from the quarter-deck to the space below, you see the utmost extremity of human misery, such crowding, such filth, such stench!

Boswell. Yet sailors are happy.

Johnson. They are happy as brutes are happy with a piece of fresh meat—with the grossest sensuality. But, sir, the profession of soldiers and sailors has the dignity of danger. Mankind reverence those who have got over fear, which is so general a weakness.

Scott. We find people fond of being sailors.

Johnson. I cannot account for that, any more than I can account for other strange perversions of the imagination.

The sailor who goes long voyages in sailing-ships, even if married, is practically a homeless and friendless man. Rare indeed are his opportunities of advising with a counsellor in a sphere superior to his own, or gaining the favor of a powerful patron. The shipowner knows nothing of the seamen in his employ, and no ties like those that bind together the landlord and tenant, the cottager and the squire, can be established between them. Again, there is a difficulty in giving to the sailor a direct inducement to diligence. That is done in other employment by piecework. The nature of the occupation forbids the extension of such a system to the sea; and thus the sailor is not animated by the incentives to vigorous exertion which exercise such a wholesome influence over other classes

of workmen, in correcting the indolence which is part of human nature.

A lesson may be learned by contrasting the privileges of the quarter-deck with the disadvantages of the fore-castle. From time to time the newspapers have been filled with complaints of the misconduct of British seamen in foreign ports. Their bad behavior is an almost inevitable consequence of the peculiar circumstances in which they are placed. After a weary voyage, who does not sigh for the blessings of the land? The sailor, confined for months in the narrow and unattractive limits of the fore-castle, shares the universal longing of human nature. He lands, an utter stranger, without a friend, unnoticed by the crowd, and ignorant of the language. He is soon accosted by a fellow-countryman, one of that low class who make an ill-gotten livelihood by pandering to the vices of young seamen. The tempter invites his victim to lodgings close at hand, and engages to cheer his life ashore with all the pleasures that are supposed to delight the sailor. The sequel is only too plainly foreshadowed. After an interval of a few days, the unhappy mariner returns to consciousness, only to find his pockets empty and his brain stupefied with drugged liquors. No longer in funds or credit, he is hurried on board a ship which he has never seen, for a voyage the nature of which he scarcely cares to inquire. Thus a new term of privation is commenced, with another equally miserable orgy in prospect at its close.

What a different picture did their life ashore present to the passengers in the 'Sunbeam'! They were warmly welcomed at every port by ministers, governors, consuls, naval officers, and merchants. All that there was of interest in the surrounding district was pointed out. Every facility for the excursions that had been suggested was provided; and a friendly hospitality was extended to us by the leading English residents. We can never repay, nor be sufficiently grateful for, all the kindness we have received.

Our crew were not neglected. They too were greeted with pressing invitations; but they came from a less disinterested quarter. Though the remedy for these evils is not obvious or easy, it

is well to become acquainted with their existence, by sharing, however slightly, in the hardships of the sea.

My recent voyage has confirmed my earlier convictions that the average British sailor is a man of more merit than his modern detractors are prepared to acknowledge. The crew of the 'Sunbeam' were by no means a *corps d'élite*. They should have been so, but the local prejudices of my sailing-master, by whom the greater number of the deck hands were selected, would always make him prefer a raw under-sized lad, if brought up in a Colchester smack, to the choicest seaman procurable in the port of London. He has no confidence in any man's conduct or seamanship unless he has been reared on the banks of the Colne.

Briefly stated, the results of my latest and widest experiences are in harmony with the impressions derived from earlier and shorter expeditions. The harder it blows, the better the conduct of the British seaman. Is a spar carried away? Are the boats adrift? Is it necessary to batten down? Your men will remain on deck through the night, and work hard without a murmur; while they grumble, without a shadow of justification, at the frequent hauling of ropes in variable winds and fine weather. They feel a professional interest in battling successfully with a storm. They view the ordinary incidents of their employment in fine weather as a drudgery, while in bad weather they go to work with the keenness and alacrity of sportsmen in the chase.

It cannot be my lot to go to sea again for a lengthened period, and I am glad that my experience closes with the stable conviction that the British seaman, lazy as he is in easy times, and stubborn in his prejudices against new inventions, in a real emergency is seldom found unworthy of the great traditions of our naval history.

From our seamen I turn to the experiences of the voyage. The first incident to which I shall refer occurred on the 13th of July last, in the latitude of Cape St. Vincent, and about 50 miles from the land. It shall be described in a quotation from a diary kept by Mrs. Brassey:—

About 10.30 A. M. a black object was seen, about three miles distant, which proved, on

examination with the telescope, to be a dismasted vessel. We altered our course, steered to the wreck, and sent a boat on board. As we approached, we could read her name—the 'Carolina'—surmounted by a gorgeous yellow decoration on her square stern. She was a deserted vessel of between two and three hundred tons burden, and was painted a light blue, with a red streak. Her bowsprit was painted white, and the gaudy image of a woman served as a figure-head. The two masts were snapped off, about three feet from the deck, and the bulwarks were gone, only the covering board and stanchions remaining, so that each wave washed over and through her. The roof and supports of the deck-house and the companions were still left standing, but the sides had disappeared, and the ship's deck was burst up in such a manner as to remind one of a quail's back.

We saw the men on board searching the vessel in all directions, apparently very pleased with what they had found; and soon our boat returned to the yacht for some breakers, as the 'Carolina' was laden with port wine and cork, and the men wished to bring some of the former on board. I put on sun-boots, and, with the children, started for the wreck.

We found the men rather excited over their discovery. The wine must have been *very* new and *very* strong, and the smell from it, as it slopped about all over the deck, was almost enough to intoxicate anybody. One pipe was emptied into the breakers and barrels, and great efforts were then made to remove the casks; but this was found to be impossible without devoting more time to the operation than we chose to spare. The men managed to get out three half-empty casks with their heads stove in, which they threw overboard, but the full ones would have required special appliances to raise them through the hatches. The wine was stowed underneath the cork, and it was exceedingly difficult to reach it owing to the quantity of cabin bulkheads and fittings which were floating about, under the influence of the long swell of the Atlantic.

It was a curious sight, standing on the roof of the deck-house, to look into the hold, full of floating bales of cork, barrels, and pieces of wood, and to watch the sea surging up in every direction, through and over the deck, which was level with the water's edge. An excellent modern iron cooking-stove was washing about from side to side; but almost every other movable article, including spars and ropes, had apparently been removed by previous boarders.

It would have delayed us too long to tow the vessel into the nearest port, 375 miles distant, or we might have claimed the salvage-money, estimated by the experts at 1,500*l*. She was too low in the water for it to be possible for us, with our limited appliances, to blow her up; so we were obliged to leave her floating about as a derelict, a fertile source of danger to all ships crossing her track. With her buoyant cargo, and with the trade winds slowly wafting her to smoother seas, it may probably be some years before she breaks up.

I only hope that no good ship may run full speed on to her some dark night, or the 'Carolina' will be at least as formidable an obstacle as a sunken rock. How many losses at sea, 'cause unknown,' may be attributed, I wonder, to floating wrecks?

Here we have an illustration of a danger of the sea which no vigilance can entirely remove. We had come upon a bulky vessel, adrift in a frequented part of the ocean, with no means of showing a light at night. Such an obstacle might cause the destruction of any passing ship, which, in the darkness, would have no warning of her danger until her bows were stove in.

On the following day we had our first experience in the present cruise of the dangers arising from fog. The wind had been light. With every sail set, we had made good but twenty-nine miles since noon, and at 7 P.M. the breeze died away to a dead calm. We proceeded accordingly under steam, and shortly afterwards were enveloped in a dense fog. At 11 P.M. the mist partially cleared away, and during the middle watch the atmosphere resumed its usual serenity.

At 6 A.M. on the 15th, we passed within hail of the steamer 'Roman,' bound from the Cape to Southampton, and made our number. Steering on exactly reversed courses, and meeting, as we did, almost end on, some reflections on the risk of running at full speed in a fog, even in parts of the sea where few vessels are encountered, naturally suggested themselves to us. Last night the propriety of perpetually sounding the steam-whistle was debated, in consultation with a most experienced master in the merchant service and a commander in the navy. It was decided that, when proceeding at eight or nine knots an hour, a periodical sounding of the whistle, at intervals of five minutes, as required by law, was of little practical value, and that the chances of meeting a ship were too remote to render it necessary to reduce speed. But we might have met the 'Roman' a few hours earlier, and in that case we should have run a very grave risk of a fatal collision. The result of our deliberations was rash. We should have slowed the engines and sounded the whistle.

I must not be tempted to dwell on a de-

lightful visit to Madeira, that gem in the ocean, such as Shelley has described:—

Many a green isle needs must be
In the deep wide sea of misery,
Or the mariner, worn and wan,
Never thus could voyage on,
Day and night, and night and day,
Drifting on his dreary way.

To such a one this morn was led
My bark, by soft winds piloted.

How many of our suffering fellow-countrymen and sisters have sought, in this far-distant island, recovery from the insidious attacks of wasting disease! Many have come here, only to die. Many, happily, return home restored to health by a temporary sojourn in this balmy climate.

In summer there are no invalids in Madeira. The heat, indeed, is such—the thermometer ranging from 79° to 86° in the shade at the time of our visit—that it would be exhausting to persons in weak health.

The English residents at Funchal were lavish of kindness and hospitality to us. Their residences are charming. Every house possesses a lovely garden, gay with glorious masses of flowers—geraniums, fuchsias, dahlias, and almost every bud and blossom known to botany—and shaded by the ample foliage of tropical plants. The tulip tree, palm, banana, and magnolia attain to the dimensions of forest trees. The walls of the houses are adorned with the most splendid creepers, among which the gorgeous purple masses of bougainvillea form a conspicuous ornament of every garden in Funchal.

In kindness to the invalids in the winter season the English residents here are unwearying; and though many years may have elapsed since their last visit to their native land—though some, indeed, have been born on this island, and have never quitted its shores—they all speak of England as 'home.'

The population of Madeira is about 110,000. The chief source of wealth was, until lately, the vine; but successive attacks of disease have made the cultivation of the grape so precarious that the sugar-cane is being extensively substituted with advantageous results. The value of a crop of sugar-cane is about

13 $\frac{1}{2}$ an acre, and, according to the custom of Madeira, one-half of the total amount realised goes to the landlord.

There were formerly large estates in the island. By a recent enactment, the equal subdivision of landed property among the direct descendants of the deceased proprietor is now the law of Madeira as it is of Portugal.

From Madeira we sailed to Teneriffe. This interesting island lies on the track of every circumnavigator, and the account of our interesting visit must not detain us long. Our great object was to climb the peak. We started at 1 A.M. on the morning after our arrival. The ascent occupied exactly eleven hours and a half. The height attained was 12,100 feet. The rude paths are practicable for mountain ponies as far as the Estancia de los Ingleses, an elevation of 10,000 feet above the sea-level. The last 2,000 feet must be climbed on foot over masses of broken lava very difficult to traverse. Having surmounted the lava, the traveller reaches a small plain, called the Rambleta, from the centre of which the Piton, or Sugar-loaf Peak, takes its rise. Its slopes are almost perpendicular, and are covered with loose ashes. Hence the labor of the ascent, under the noonday heat of a tropical sun, was almost insupportable. On reaching the summit, however, the view before us was an ample reward for all we had undergone. We found ourselves on the narrow edge of an extinct crater, the white and sulphurous walls of which formed an extraordinary contrast to the dark masses of lava which had been poured forth in former eruptions, and had filled the sandy plain below with masses of brown and vermilion color.

It is impossible to conceive a scene more desolate. Everywhere it bears the marks of the volcanic fires. It was in such a waste as this that the rebellious spirit of Capaneus was so fiercely rebuked by Æneas in the presence of Dante:—

*I' dico, che arrivammo ad una landa,
Che dal suo letto ogni pianta rimuove.
La dolorosa selva le è ghirlanda
Intorno, come 'l fosso tristo ad essa:
Quivi fermammo i piedi a randa a randa.
Lo spazzo era una rena arida e spessa.*

Longfellow thus translates the passage:—

*I say that we arrived upon a plain,
Which from its bed rejecteth every plant;
The dolorous forest is a garland to it.
All round about, as the sad moat to that;
There close upon the edge we stayed our feet.
The soil was of an arid and thick sand.*

The view was not so extensive as we had hoped. When day dawned, and we were able to take a survey of the landscape, we had found ourselves already above a white and fleecy and perfectly level mass of cloud, resembling a vast plain covered with rifted snow. These clouds remained motionless throughout the day, and quite concealed the blue waters of the Atlantic.

The ascent of the Peak of Teneriffe is interesting as a means of determining the vertical height to which that great atmospheric movement known as the trade-wind extends. According to the theory first proposed by Edmond Halley in 1686, and now very generally accepted, the high temperature causes the air in the tropics to rise up. It is replaced by the colder and heavier air from the poles. The reason why the trade-winds are felt, not as simple polar winds, but as north-easterly and south-easterly winds, is that currents of air, blowing from the poles to the equator, have less rotary velocity than the surface of the earth. Hence these winds have been compared by Dr. Arnott to a fluid coming from the axis of a turning wheel to its circumference. The theory—that in the lower strata the air is constantly flowing towards the equator, and that in the upper regions a counter-current is constantly directed to the poles, is confirmed by the changes of wind experienced in the ascent of the Peak of Teneriffe. Immediately after passing through the stratum of clouds, which, at a height of 2,000 feet above the sea, formed such a remarkable feature in the scene, we experienced eddy winds, and on reaching the summit of the peak we found a steady breeze blowing from the southwest, or in a direction opposed to the trade-wind below.—*The Nineteenth Century.*

GERMAN SCHOOLS.

BY WALTER C. PERRY.

IN Germany we find hardly any of those circumstances which are supposed to prevent us from establishing a good national system of education for all classes of society. *There*, there are no "close and wealthy scholastic corporations;" no "rich, independent and dominant Church claiming a monopoly of education, and instinctively averse to change;" no "blind adherence to old paths." Whatever may be the faults of the German governments—and they are numerous and grave—they cannot be accused of hiding the light of knowledge from their people. They have long considered it one of their most important functions to provide a sound education for the highest and lowest in the land, a systematic training for every career in life; and, more than this, to enforce the acceptance of the advantages they offer. They have ever shown themselves ready to take the advice of the most enlightened men on the principles and practice of teaching, and have put the best education which the profoundest thinkers could devise and the most learned, laborious, and thoroughly trained teachers impart, within the reach of all but the very poorest in the community. A small German shopkeeper can obtain for his son at a day school (almost all German schools are day schools (for 3*l.* (§15), or 4*l.* (§20), a year, as good, if not better, instruction in the ancient classics, mathematics, history, &c., &c.; or in the modern languages, physical sciences, geography, drawing, and singing—as can be got by the richest man in the world. He can subsequently have him trained in the best schools of divinity, law, medicine, philology, philosophy, archæology, the fine arts, and the physical sciences, by university professors of the highest celebrity; or in practical mechanics, engineering, architecture, agriculture, mining, manufactures, commerce, &c., by men who have made the theory and practice of these arts the study of their lives, for from 5*l.* (§25) to 15*l.* (§75) a year, according to the nature and extent of his studies. The schoolboy lives, as I have said, in the vast majority of cases

at home; the student can live exactly in accordance with his means. Would it be easy for an Englishman in the same, or indeed in any class of life, to obtain the same advantages?

It was my original intention to give in this article as complete a picture as I was able of the German universities at the present time. But I am convinced that no adequate idea can be formed of them without some knowledge of the schools with which they are so intimately connected, and where a very important part of the work is done, which produces such precious fruits at the universities.

The schools of Germany may be classed under four principal heads: the Gymnasias—corresponding in the course of study, but in little else, with our "public schools"; the Real-schulen—answering somewhat to the "modern side" of our schools; the Bürger or Gewerbeschulen, and the Elementar-schulen, of which last we shall not have occasion to speak at present.

I. THE GYMNASIA.

Of these, the Gymnasias, which have still the exclusive right of preparing men for the universities (although some slight concessions have recently been made to the alumni of the Real-schulen), continue to hold the chief rank, and to enjoy the highest estimation. It is a noteworthy fact, that a nation which carries free inquiry to its utmost limits, unchecked by reverence for the past or fear of consequences, which for generations has set itself the task of discovering the best means of strengthening and developing the intellect and fitting it for active work in the highest regions of thought, has, after lengthened controversy, deliberately adhered to the study of classical antiquity as the basis of its highest education. The question of admitting the pupils of the Real-schulen to the universities, on an equal footing with Gymnasiasts, was, a short time ago, submitted to the professors of all the universities in Prussia; and I was assured by one of the greatest physiologists in Germany, himself an enthusiastic lover of

physical science, that both he and the vast majority of his scientific brethren had given their voices in favor of the classical training of *all* boys intended for the university. In England it may be said that the study of Greek and Latin retains an undeserved pre-eminence in our schools because it is richly endowed and leads to scholarships and fellowships, and is the only study of our aristocracy. But in Germany the philological students are among the very poorest, and the German nobility do not continue the study of the classics after they leave school, but either devote their attention to law, *cameralia* (diplomacy, &c.) and political economy at the universities, or to military science or agriculture at special government schools, where these subjects are taught. The German schoolmen justify their preference for the Gymnasia by considerations such as these: The chief object of the higher education *at a school*, they say, is not the accumulation of "useful" knowledge, but the strengthening of the power of cognition. All those, therefore, who are not compelled by circumstances to take the shortest cut to a bare livelihood, ought to pursue some ideal study which does not lead *directly* to bread or money, but is cherished for its own sake. Every good plan of study, they maintain, should have one, or, at most, two central subjects, capable of scientific treatment, equally well-adapted to exercise the undeveloped faculties of the child, to awaken the intelligent interest of the boy, and to task the highest powers of the most gifted and industrious man. This central subject must be in close relation to all the faculties of our spiritual nature and all the phenomena of our spiritual life. It must contain within it the germs of religion, philosophy, history, geography, natural science, poetry, and art. And, rightly or wrongly, the ablest schoolmen have decided that the languages and literatures of ancient Greece and Rome, most fully answer these requirements.

According to the latest report, there are in Prussia, 232 Gymnasias, and 34 Pro-gymnasias, the latter of which have no Prima—our sixth form. These schools are attended by nearly 80,000 day scholars, who pay from 2*l.* 10*s.* to 4*l.* a year, according to the lower or higher form to

which they belong. The salaries of the masters, which have lately been increased, range from 90*l.* to 250*l.* per annum. In some instances the salary of the Director (head-master) exceeds the latter sum, and a dwelling-house is often attached to his office. The Gymnasias, like the universities, are under the control of the Minister of State for Ecclesiastical, Educational, and Medical affairs. But while the universities, as institutions for the country at large, are under the immediate superintendence of the king's minister, the Gymnasias, as belonging rather to the province in which they are situated, are managed by intermediate provincial authorities. In each of the provinces into which Prussia is divided, there exists a body called the Consistorium, having sections, or committees, to which is intrusted the charge of the ecclesiastical, educational, and medical institutions respectively. The educational section of the Consistorium, which acts as a sort of privy council to the minister, appoints in its province a Schul-collegium (School Board), consisting of a President, Vice-President, and two Consistorial Councillors, one for the Protestant and one for the Roman Catholic Gymnasias; and by this Board the course of instruction, in all the schools of the province, is arranged and superintended. The official through whom the Schul-collegium exercises its authority is the actual Director of the Gymnasium. The latter receives his nomination from the Crown, but the Schul-collegium may propose any duly qualified person to the Minister of Education. The powers of the Director *vis-à-vis* the Assistant-masters are very ample, and were enlarged by the new Directoren-instruction of 1867. The assistant-masters, however, when once appointed by the Schul-collegium, cannot be dismissed without a fair trial.

The Director draws up the plan of study for each semester (half-year) in accordance with the general instructions which are issued from time to time by the central government at Berlin. He mediates between the Consistorial Schul-collegium and the staff of assistant-masters, who can only communicate with each other through him. He is *Censor morum* to his colleagues, and in the annual report which he is bound to make

to the Schul-collegium of the state of his school, he is expected to give his opinion of the character and efficiency of his assistants. The Director enrolls the new scholars, and classes them according to the testimonials which they bring with them from home or from other schools; and if not perfectly satisfied with these it is his duty to examine the new boys himself.

The financial affairs of the Gymnasium are managed by a standing committee—appointed by the government (Regierung) of the province—which generally consists of the burgomaster of the town in which the school is situated, the town councillors, and some clergymen; and of this committee the Director of the school is *ex-officio* President. The funds of the Gymnasia are derived in the vast majority of cases from annual royal grants.

The masters of a Gymnasium are divided into two classes, the Ober-lehrer (upper-masters), who are qualified to teach in the higher forms, and the Ordentliche-lehrer (masters in ordinary), whose *facultas docendi* only extends to the lower and middle forms. The former have passed the Ober-lehrer Examen, before the examining committee of a university; the latter, a lower examination before the same committee, but they can at any time claim to be examined for the higher grade. There are also "supernumerary" teachers waiting for appointments, and "school candidates," who are passing their probationary year at the school under the superintendence of the Director, after having gone through the full university course, taken their degrees, and passed their first examination. Hülfs-lehrer (extra-masters) are appointed to give religious instruction to the Protestant and Roman Catholic pupils respectively. If the ministers of any other persuasion (*e.g.* the Jewish) wish to give instruction to their co-religionists, they must do so gratuitously. Singing and drawing masters are also attached to every school.

Each form has its Ordinarius, to whose superintendence it is more especially entrusted, and who is directly responsible for the conduct and progress of his pupils. He gives instruction in the higher subjects, and superintends the other masters who teach in the same

class. The number of masters in each form is three to four, the proportion of teachers to scholars being, of course, greater in the higher forms. The Head-master gives from eight to ten lessons a week, the Ober-lehrer sixteen to eighteen, and the Ordentliche-lehrer from eighteen to twenty, and in the lowest classes even more. The pupils receive from twenty-eight to thirty lessons, of an hour each, during the week, and spend from four to five hours a day in preparation at home, so that a boy who would stand well in his class is occupied about nine hours a day.

Once a fortnight the Director holds a conference of masters, who hand in to him a circumstantial report of the progress made by each boy, and the general state of their respective forms. All matters concerning the welfare of the school are freely discussed at these meetings, and the Director makes suggestions and imparts advice and encouragement to his assistant-masters. The concurrence of this conference is necessary to empower a master to inflict any of the severer punishments.

In most of the Prussian Gymnasia there are six forms (or rather eight, as the two higher classes are divided into upper and lower), through which the pupils ought to pass in eight or nine years. The lowest class is called Sexta, and the others in ascending scale, Quinta, Quarta, Tertia, Secunda (upper and lower), and Prima (upper and lower). There is generally a still higher class, called Selecta, for the more gifted and ambitious scholars, which is under the especial direction of the Head-master. In the forms below Quinta the course of instruction is adapted to the training of boys for almost every career in life; in the two highest forms they are specially prepared for the matriculation examination of the university. The work of education is not begun at the Gymnasium. The usual age for entering it is nine or ten, but in some schools boys are not received until they are two or three years older, and are then expected to show a proficiency corresponding to their years. When they enter school at the age of nine or ten they must be able to read correctly both German and Roman characters, write a tolerable hand, and write from dictation without gross mistakes in

spelling. They must also possess some knowledge of the doctrines of the Christian religion, Biblical history, and the common rules of arithmetic.

All the Gymnasia possess a good library for the use of the masters, and most of them one for the scholars also. They have also philosophical apparatus, and botanical, geological, and mineralogical collections.

A certain amount of surveillance is exercised by the masters over the boys, even during their play—or rather their leisure—hours (for they do not play), and in their own homes. The Ordinarius is bound to visit those pupils who come from a distance, and are not living with their parents, and to watch over their general conduct. The scale of punishments rises from verbal reproof to written reproof in the class-book, confinement to the class-room for from half-an-hour to three hours—of which notice is given to the parents—imprisonment in the school *carcer*, which is recorded in the half-yearly report, and expulsion, of which there are different degrees, and which can only be inflicted by the conference of masters. If the Director differs in regard to any case from the majority of his assistants, he may refer it to the Schul-collegium, to which the delinquent, or his parents, may also appeal. If a pupil, after being two years in the same class, fails to get his "remove," he receives a quarter's notice, and is *advised* to leave the school.

The following is a syllabus of the work of the Prima (our sixth form) in a Berlin Gymnasium (for the winter semester 1875-6), which may be fairly taken as a good specimen of the class of schools to which it belongs.

Religion (two lessons a week).—Earliest history of the Christian Church in connection with the reading of the Acts of the Apostles in the original Greek; the Epistle to the Romans; the Confession of Augsburg.

German (three lessons a week).—Elements of logic. History of literature in the age of Goethe and Schiller. Reading of Goethe's *Torquato Tasso*, and Schiller's *Don Carlos*. Monthly essays on the following subjects: I. (a) Are the fundamental principles of pictorial composition laid down by Lessing in his *Laocoon* observed in the Centaur Mosaics

at Berlin? (b) Is the description contained in the *Heracles* and the *Achelous* of Philostratus based on a painting or a poem? (c) Does the rule of Pisistratus and the Pisistratidæ answer to Aristotle's description of the Tyrannies? II. (a) In what way were the feelings of Tasso hurt by Antonio? (b) How is the hostility of Antonio to Tasso to be explained? (c) The dialogue in the first act of Goethe's *Tasso*, as a pattern of the noblest tone of social intercourse. (d) Why does Goethe call Pope Gregory XIII. "the worthiest old man whose head is burdened by a crown"? III. (a) Do the words of the Princess "The truest words which flow from the lips, the sweetest remedies, avail no longer" really apply to Tasso? (b) What qualities of the poet are referred to in the words of Leonora "His eye scarce lingers on the earth"? IV. Goethe's *Egmont*. (a) Was Duke Alba a good servant of Philip? (b) Why was Egmont popular? (c) Did Margaret of Parma show herself to be a sagacious observer, when she said "I fear Orange, and I fear for Egmont"? V. (a) What expedients does Sophocles employ to put us in possession of the facts preceding the action of the tragedy of *Electra*? VI. How far does the character of Clytemnestra, in Sophocles' *Electra*, agree with the proposition of Aristotle, "οὐδ' αὖ (δεῖ) τὸν σφόδρα πονηρὸν ἐξ εὐτυχίας εἰς δυστυχίαν μεταπίπτειν."

Latin (eight lessons, in all the lower forms ten, a week).—Four lessons a week devoted to reading prose authors, two to the poets, and two to grammar and style. Tac. *Annal.* III. IV.; Cicero *Pro Murena*; privately and cursorily, Cicero, *Cato Major*; and Sallust, *Catilina*; Horace, *Carm.* III. (Odes 1, 2, 3, 9, 12, 13, 19, 21, 30, by heart.) *Sat.* II., *Ars Poetica*, grammatical repetition. Practice in speaking Latin, in connection with prose reading at home. Extemporaneous translation from German. Prose composition once a week. Latin essays once a month. Subjects of the latter for half year. I. (a) "De causâ Pisonis (Tac. *Annal.* III.). (b) "Quo modo Demosthenes Athenienses ad bellum Macedonicum excitavit?" II. "Satis beatus unicus Sabinis" (*Hor.* C. II. 18). "Horatii ad Aristium Fuscum epistola (conf. Ep. I. 10)." III. (a) "Tiberius quae boni principis munia posuit, ipse

primis temporibus explevit." (b) "Recte Cato sine senibus nullas omnino civitates futuras fuisse dixit." IV. "Quibus in rebus cernitur senectutis felicitas?" V.

'Quibus causis permotus Cicero videtur L. Murenam defendendum suscepisse?'

Greek (six lessons a week).—Prose reading two hours, poetry three hours, grammar and composition one hour. Thucyd. VI. Homer, *Iliad*, VIII. XXI. Sophocles, *Electra* (474-515, 1058-1079, 1334-1397, by heart). Grammatical repetition; prose compositions given in every week.

French.—Grammatical repetition, and exercises in French style. Extempore translations from German every fortnight. Reading of Sandeau's *Mademoiselle de Seiglière*, and Guizot's *Charles I.*

History and Geography (two lessons a week).—History of the Reformation. Particular study of portions of ancient history. Repetition of the whole school course of history. Geographical repetitions.

Mathematics (three lessons a week).—The Apollonian problem of contact (Apollonische Berührungs - Aufgabe). Stereometrical exercises with special reference to cylinders and cones.

Physics (two lessons a week).—Optics.

II. THE REAL-SCHULE.

The principles which lie at the foundation of the German Real-schule may be traced back to the scholastic philosophy of the twelfth century, when the Realists and Nominalists contended with the bitterest zeal for the *Universalia in re* on the one hand, and the *Universalia post rem* on the other, with marvellously little profit to the life and education of the middle ages. Erasmus was, perhaps, the first to call the attention of thinking men from the past to the present, and to maintain that the ancients should be read, not so much with the view of reproducing their thoughts in the same language, as for the sake of the matter they contained and in close connection with the literature and science of modern times. Melancthon, too, recommended the study of mathematics, astronomy, and physics. God, he said, had manifestly created man for the contemplation of His works, and we ought to prepare ourselves by the study of nature "for that eternal Academy where

our knowledge of physics will be perfected, when the great Architect of the Universe will show us the model of the world."

One of the earliest and most successful reformers of education, in the direction of a rational realism, was the Moravian minister, Amos Comenius, who came over to England in 1641 at the invitation of Parliament, for the purpose of reforming the public schools; and, but for the breaking out of the civil war, he might have exercised the same lasting influence on the scholastic history of our own country as he did on that of Sweden and Germany. Undeterred by the horrors of the "thirty years' war," he persistently advocated the necessity of a system of education in accordance with the spirit of the times, and the wants of the great mass of mankind, whose destination is to be, not so much spectators as actors in the drama of life. He demanded a suitable education for children of every class, to prepare them for their work in the world. Unfortunately the majority of his followers misunderstood his enlightened principles, and fell a prey to the coarse materialism of the times, for which they thought a justification was to be found in his writings. The first impulse, however, had been given, and there were always some, even of the learned class, who saw the necessity of change. The gradual improvement in the method of studying the classics, by directing the attention of the student not only to the words and style, but to the rich contents of Greek and Roman authors, necessarily led men to set a higher value on those realistic studies which are common to the past and the present. The man who learned to value Homer, not only as a writer in the Ionic dialect, but as an interpreter of nature, as the clearest and sweetest voice in which she has addressed the ear of man, could not be deaf to the poetry of his own age and nation. He who had studied history and geography under Thucydides and Strabo could not be indifferent to the voyages of Columbus, or the wars and revolutions which were taking place around him. And, lastly, those who had studied Euclid must follow with interest the efforts of modern science to measure earth and heaven by the application of the very laws which the Greek geometer had laid down. The mutual relation

between past and present began to be better understood; the dark flood of the middle ages, which had seemed to separate two worlds, and which seemed to leave only the unhappy choice of living in one or the other, was gradually bridged over, and it was found that they differed more in color than in substance, and served mutually to illustrate each other.

The cause of a rational realism was, as might be expected, greatly injured by its fanatical adherents. Julius Hecker, who was appointed preacher at the Trinity Church by Frederick William I., established, under the name of Real-schule, a sort of universal academy, which included a German school, a Latin school, (for boys not intended for the university), a Paedagogium for future students, and a training-school for teachers. "Opportunity was to be offered to every pupil to learn according to his free choice, *in the shortest and easiest way*—to the exclusion of all that was superfluous or unpractical—whatever he needed for his future special calling." In addition to lectures and lessons on every imaginable subject, from philosophy down to heraldry, he established a "curiosity class," in which matters of common life, especially the news of the day, were discussed. In order to teach the pupils through the eye, and furnish them with "useful knowledge," he made collections of the most heterogeneous kind, models of machines, buildings, ships, ploughs, churns, fortresses, shops with their different wares, &c. In the so-called "manufacture class" lessons were given in the leather trade, and illustrated by a collection of ninety pieces of leather of the size of an octavo page! The words of the Greek sage, who said that the child should be taught that which he will use when a man, were taken literally, and a system established which, if logically carried out, would oblige our boys to plead little causes, preach little sermons, keep little shops, slaughter little animals, and spend their school hours in digging, hammering, weaving, &c.

It was not until the year 1820 that the Real-schule began to rise from the disrepute into which it fell in consequence of the vagaries of Hecker and other realists

run mad. In that year Dr August Spilleke began to take up ground between the servile, materialistic, utilitarian view of education and the narrow and barren formalism of the old grammar school. He was not an opponent of classical education, but contended that the Gymnasium and the Real-schule ought to aid and supplement each other; that the chief object of the former was to develop the scientific, that of the latter the practical, qualities of the pupil; and that the Real-schule ought to stand not below, but by the side of, the Gymnasium.

As originally constituted, the aim of the Real-schule was comparatively a humble one—that of preparing boys for mercantile and industrial pursuits, more directly and more rapidly than the Gymnasium, with its mainly ideal studies, could possibly do. Greek and Latin were altogether excluded, as being unnecessary to the attainment of this object. It was soon found, however, that these schools did not meet the requirements of the large and rapidly increasing class of wealthy merchants and manufacturers, whose sons in after life are naturally brought into close social connection with members of the ruling and professional classes. They considered it a lasting injury to their sons to be excluded altogether from the more liberal education enjoyed by the Gymnasiasts. The rescript of the Prussian Government of October 6, 1859, was issued as a concession to this widely-spread feeling. By this ministerial "patent" an important distinction was made between Real-schulen "I. Ordnung" (of the first rank), and Real-schulen "II. Ordnung," and other Bürgerschulen (middle-class schools). The former were placed under the Royal Provincial Schul-collegium (the ruling board of the Gymnasias). The plan of instruction was fixed by authority, and the study of Latin made compulsory. The principle of mere "utility" was discarded, and the object of the Real-schule declared to be, like that of the Gymnasium, to afford "a general scientific training, as a foundation for further study." The plan of study then laid down, and still adhered to, was as follows:—

SYLLABUS FOR THE REAL-SCHULE.
I. ORDNUNG, OCT. 6TH, 1859.

	VI.	V.	IV.	III.	II.	I.
	(Lowest Class.)					
Religion.....	3 (Lessons a Week.)	3	2	2	2	2
German.....	4	4	3	3	3	3
Latin.....	8	6	5	4	4	3
English.....				4	3	3
French.....		5	5	4	4	4
Geography and History	3	3	4	4	3	3
Natural Science.....	2	2	2	2	6	6
Mathematics.....	5	4	6	6	5	5
Writing.....	3	2	2	2	2	3
Drawing.....	2	2	2	2	2	3
Hours a Week.....	30	31	32	32	32	32

It will be seen by a reference to this syllabus that the favorite and vital principle of the centralisation of study is entirely lost sight of. The question of the proper constitution of the Real-schule, so far from being settled by the patent of 1859, is debated with greater energy and heat than ever. The chief point of controversy is that of more or less Latin. The present practice, as shown by the plan, is to give the lowest form eight Latin lessons a week, the fifth and fourth form six, the third form five, the second four, and the highest class three! Now as only two or three per cent. of the "Real" scholars go beyond Secunda (our fifth form), and a very large proportion leave in Tertia, the instruction in Latin, for the great mass of pupils, means a very little Ovid and Cæsar. Just at the time when they might be expected to derive some advantage from their previous grounding, the number of lessons sinks to four and three. They stop short on the very borders of the promised land, and turn their backs on it for ever!

The question was considered so important that the present Prussian Minister of Education, Falk, very recently summoned a conference of twenty-four of the most eminent school-masters of the kingdom to discuss this subject, among others, in his presence. However much the opinions of these experienced men differed as to the best remedy, they were nearly unanimous in condemning the present constitution of the Real-schule, and pressing on the Minister Falk the necessity of a change. Some

advocated the continuance of the Real-schule as a distinct institution, with a considerable increase in the number of Latin lessons; some wished for a reunion of the Gymnasias and Real-schulen, on the bifurcating system, in such a manner that the divergence should take place after Quarta (or after Quinta), at which point the Gymnasiasts should begin their special preparation for the universities, and the Real-scholars substitute mathematics, natural science, and modern languages for Greek. In the study of Latin, however, it was deemed desirable that all the pupils should proceed *pari passu* as long as they remained in the school. The result of the conference may be summed up in a few words—"Either good Latin or none." The Real-schule without Latin is identical with the so-called higher Bürger-schule, which is still found in every part of Prussia, one variety of which is the Gewerbe-schule.

III. THE GEWERBE-SCHULE.

(Trade, or Business-school.)

I come, in the last place, to speak of a school of a somewhat different character from those described above—the so-called Gewerbe-schule. It was my good fortune to visit one of the best schools of this kind at Barmen (Elberfeld), and to be initiated into its nature and working by the highly accomplished Director, Dr. Zehme. The Gewerbe-schule, he said, paid as loyal a homage to the principle of concentration as the most purely classical Gymnasium, but was forced, in the fulfilment of its peculiar mission, to choose other subjects as the centres of its educational system. The Gewerbe-schule in Barmen is divided into the lower and upper school. The lower school has four forms, and a course of four years, in which the pupils are prepared either to enter on their future calling at once, or for admission into the upper school.

The upper school has two forms, with a course of two years, and a Selecta, with a six months' course. It undertakes to prepare a boy for the career of merchant, manufacturer, engineer, or architect; or for admission to the Royal Gewerbe-Akademie in Berlin, and the Polytechnic schools in various parts of Germany, which are to the Real- and Gewerbe-

schulen what the university is to the Gymnasium.

The syllabus of studies is as follows:—

	VI. Class.	V.	IV.	III.	II.	I.	Selecta.
Religion.....	2	2	2	2			
German.....	4	4	4	3	3		4
French.....	8	6	3	3	2		
History of Art.....							2
English.....			4	4	3		
Mathematics and Arithmetic.....	4	6	6	6	9	4	3
Mechanics.....						4	3
Chemistry or Min- eralogy.....					4	2	4
Practical Work in Laboratory.....						6	
Practical Employ- ment in Work- shops.....						6	
Theoretical Archi- tecture.....						2	2
History and Geo- graphy.....	3	3	3	2	2	2	2
Writing.....	2	2	2				
Drawing.....	2	2	4	8	11	13	13
Singing.....	2	2	2	2			

The numerals mean hours a week.

The remarkable feature in the foregoing plan of study is the great attention paid not only to mathematics, mechanics, and natural science, practical as well as theoretical, but to *drawing*, the reason of which Dr. Zehme explained to me.

The entire exclusion of the Greek and Latin languages, he said, was not a matter of choice, but of necessity, and neither implied a want of appreciation of their value, nor the abandonment of all attempts to penetrate by other means into the spirit of Greek and Roman antiquity. The main work of the Gewerbe-schule must of course be the study of the natural and technical sciences; but the technical high schools, he thought, would in the long run, have to make some concessions to "humanism;" not, indeed, by placing the dead languages in their syllabus, but by the extended cultivation of a subject which stands in close relation to modern life—the *history of art*—an important branch of universal history. As the Gewerbe-schule is to many their *only* school, it must, like Gymnasium and Real-schule, endeavor to give an education *complete* as far as it goes, and furnish the State with a good citizen as well as a clever workman. The natural and technical sci-

ences deal solely with the external world. Man as a thinking and feeling creature—his religion, morality, poetry, philosophy, and history—is excluded from their investigations. A harmonious development of mind and heart can, therefore, never be attained by the study of the natural sciences alone. "It is not," says Mr. Wilson of Rugby, one of the ablest and most experienced teachers of natural science, "simply *false* that there is an inhumanity about science. Constant dealing with nature, and the exercise of the intellect alone, as contrasted with humanity—the exercise of the moral feelings—unquestionably tends to exclude men from the highest thoughts." Not only, therefore, are the pupils of the Gewerbe-schule instructed in Greek and Roman history, but continually practised in drawing and modelling from casts of the choicest remains of Grecian art, with which the Gewerbe-schule at Barmen is furnished to an extent which would do credit to the richest of our English schools. But experience convinced the Director that the insight into the ancient world thus gained was dim and confused, unless aided by some knowledge of Greek and Roman *literature*; and this he endeavors to impart to his pupils by reading with them those excellent translations of the ancient classics in which the German language is so rich. The time devoted to them is naturally very limited, and I found that (with the exception of Ovid's *Metamorphoses*, which are indispensable, from their connection with art) the GREEK authors only were read, and, chiefly, Herodotus, Plutarch, Homer, Aeschylus, and Sophocles. It is manifest how well adapted the works of these authors are to awaken the interest of the young, and, on the one hand, to enrich their fancy with the infinite variety of graceful forms which people the mythical world, and, on the other, to afford the teacher the fairest opportunities of impressing on the hearts of his pupils the great moral lessons of history, the epos, and the drama.

Ample proofs were given me of the great success of this novel method of gaining, with little sacrifice of time, a considerable knowledge of the antique world, and of bringing it into close and fruitful connection with our modern life; and as I left the school I felt that

a difficult problem was in some measure being solved in it—that of training the humbler classes by the most thorough technical instruction for the practical work of the world, without altogether excluding them from the humanising and enlivening influences of literature and art.

At this school, as well as at many others, the classes of which I attended, I was greatly struck by the extraordinary skill in teaching displayed by the masters, and the proficiency of the pupils—their ready and pertinent answers, and the clear and accurate style in which they were given—and also by the general equality of attainments in members of the same form. “In the sixth form of an English public school,” I observed to the director of a West Prussian Gymnasium, “you would find a few more brilliant scholars than any in your class, with a larger proportion of idlers and dunces.” “It is our principle,” he replied, “to adapt our instruction to the wants of the average boy—to see that he is brought up to the prescribed mark at the proper time, and to leave the more gifted to find the additional aliment they need as best they may.” I also noticed the fixed and apparently pleased attention paid to his commands, and the eagerness manifested by the boys to answer the questions put to them; and I asked him whether they were excited by the prospect of prizes, honor-lists, and competitive examinations. He replied that *the principle of competition was almost entirely excluded from their educational system*, as tending to foster a servile view of education, and to lead to spasmodic and exhausting efforts and feverish excitement, rather than to the healthy and harmonious development of the mental powers.

On coming out of the schoolroom, I watched the boys at their compulsory gymnastic exercises, in their ugly, grassless yard, and contrasted their quiet, spiritless demeanor with the obstreperous gaiety of our own noisy youngsters at their rough and hardy games. The director assured me that the German boy was not, as I supposed, indifferent to play, but that the authorities did nothing to promote it. “I think,” he added, laughing, “that they like a tame, Philistine people (*ein zahmes philister-*

haftes Volk); and, besides, there is an ebullient energy in the English nature of which we know but little.”

I then inquired into the social position of the pupils, whose performances in his form had excited my admiration, and was told that all classes of society were represented—*noblesse*, bankers, wealthy merchants—down to the smallest tradesmen; and that four of the boys in his form were sons of day laborers, who were unable to pay, without assistance, the marvellously small *schulgeld*. One of his difficulties, he said, arose from the poverty of the boys' parents, who made bitter complaints when a change of class-books necessitated a new outlay, however small. The father of one of his boys had lately complained to him of the heavy expense of educating his son (4*l.* a year); to which the Doctor replied that learning, unfortunately, *did* cost money, but that it was, after all, the cheapest thing “going,” and that he had made a calculation, according to which a lesson in Tacitus, including firing in the winter, cost a boy exactly five *pfennigs* (one halfpenny).

According to the latest report of the Minister of Education for the winter semester of 1876, there are in Prussia with its 23,000,000 inhabitants, 232 Gymnasias, with 2,528 Ober-lehrer and Ordentliche-lehrer, 281 Wissenschaftliche Hilfs-lehrer, 408 Technische-lehrer, 150 Religions-lehrer, and 177 Probe-Candidaten, and (including the preparatory schools originally connected with the Gymnasias) about 76,000 pupils; 34 Progymnasias, with 268 teachers (of all kinds) and 3,737 pupils; 80 Real-schulen (I. Ordnung), with (including the preparatory schools) 1,420 teachers (of all kinds) and 30,874 pupils; 17 Real-schulen (II. Ordnung), with (including preparatory schools) 284 teachers (of all kinds) and 6,898 pupils; 92 Höhere Bürger-schulen and Gewerbe-schulen, with (including preparatory schools) 843 teachers (of all kinds) and 17,086 pupils. Altogether the schools for the upper and middle classes in Prussia, under direct Government control and supervision, are frequented by 134,595 scholars, and taught by 6,359 teachers.

In conclusion, I shall venture, at the risk of being tedious, to notice the chief points of comparison between English

and German schools, and more especially those points in which the Germans seem to me to have an advantage over us. There is probably little danger of our overlooking those in which the superiority is on our side.

In the first place, the Germans have the advantage of a uniform system of education, framed by a succession of able statesmen and scholars, carefully superintended by the Government, modified and expanded, from time to time, in accordance with the wants of the age, and embracing the whole ascending scale of instruction, from the earliest lessons of the elementary school to the most abstruse lectures of the university, and the technical academy.

Secondly, the Germans have an advantage over us in possessing a numerous class of learned men, who make teaching the sole business of their lives, and are subjected to the close inspection of competent authorities appointed by the State. The masters in a German school are, generally speaking, better teachers than those of our best schools; not because they are more learned, conscientious or zealous, but because they are specially trained for their work; because there is among them a more rigid division of labor, and because they have more power over their pupils. It may be said indeed *magister nascitur, non fit*; but teaching, like poetry, requires art as well as genius, and no Director of a German school would appoint a master until he had had some practice in the art on which his success depends. In England, on the contrary, we assume that the good scholar will be a good teacher. A good degree, a bachelor's cap and gown, are ample qualifications; and the possessor of these is introduced, without any special training, to the form of a public school, and left, without guidance, to blunder his way, by the rule of "trial and error," like any civil first lord of the admiralty, to the efficient performance of his duties. That, under the circumstances, the tutor and the first lord so often prove efficient is only another proof of the energy of our race; but who shall say how many boys and iron-clads are sunk during the noviciate?

Again, the German master is a more efficient teacher because he is not over-

burdened with form work or the domestic superintendence of his boys; and because he is only called upon to give instruction in *cognate* subjects. Three lessons a day is considered very full work, and the masters of the higher forms seldom give more than seventeen, or the head-master more than ten, in the week. A tutor, it is thought, should give no more lessons than he can give with the whole force and freshness of his mind, without undue exhaustion; and, above all, he should have time for prosecuting the private studies which enhance the value and efficiency of his work. The master of a Gymnasium, or other public school, would soon lose caste among his colleagues, and all hope of advancement in his profession, if he did not prove, from time to time, by some scholarlike treatise, that he was making good progress in some particular path of learning. How different is the case in most of our schools! Many an English tutor, in addition to the management of "a house," has to give four or five lessons a day, and has neither time for social recreation, nor even for such an amount of private study as would enable him to keep himself at the level of scholarship he attained at college. It is no unheard of thing, even in our best schools, for a young master to be expected to teach Greek, Latin, French, history, geography, arithmetic and geometry, and to give seven or eight-and-twenty lessons a week. How is it possible for him ever to make himself a thorough master of any of these subjects?

The German master is able to give more efficient lessons because his form is better prepared to receive them. Not only the first entrance into the school, but into each succeeding form, is guarded against the incompetent by a very strict examination. Consequently, the master knows exactly what to expect of his pupils; and neither loses time, as we are often obliged to do, in filling up holes in the foundation on which he has to build, nor in teaching one half the class what the other half already knows. It can never happen to *him*, in the middle of a lesson in Aeschylus, to discover that some of his hearers hold unsound views in regard to the conjugation of the Greek verbs in *mu*!

The German master has an easier task

than the English master, because he has greater power over his pupils, and because his efforts to teach are generally met by an equal eagerness to learn. The maintenance of discipline never weighs upon *his* mind. The force brought to bear upon the German boy is absolutely overwhelming. Behind his class-master (*ordinarius*), rise the majestic forms of the Herr Director and the Schul-collegium; while, in the distance, loom large and awful the Dii-majores of Berlin—the “Minister der Geistlichen-Unterrichts- und Medicinal-Angelegenheiten;” nay, the Emperor himself, with a hundred legions at his back! What can a poor little Teuton do against such odds? The English boy, on the other hand, has only to face his tutor, or, at worst, an armed alliance of tutor and father; and he may often indulge a hope, that the operations of the latter may be checked or neutralised by the irregular, but very effective, forces of his natural ally—his mother.

The German boy is naturally more eager to do well in his class, not only because he very soon becomes aware that all his success in life is at stake, but because there is no other field in which he

can gain distinction. But when an English boy enters *his* school, it is not the Newcastle scholar or the Tomline scholar who is pointed out to him as the object of his cult, but the captain of the boats, or of “the eleven;”—the heroes of Lord’s or Henley. As an “oar,” or a “bat,” he may find distinction, not only at school, but at college and in general society.

In these and some other respects, which it would be tedious to enlarge upon here, the German schools are superior to our own. Some of these advantages we cannot hope, cannot, perhaps, even *wish* to share, because they cannot be obtained without the sacrifice of what we value still more highly; but they are for the most part quite within our reach. The fair and candid spirit in which educational matters are now discussed by the heads of our great schools, the earnestness with which educational reforms are advocated at our universities, by men whose “interests” might tempt them to “let well alone,” encourage us to hope that some reformer will arise to do for the upper and middle classes what has already been done for the great mass of the people.—*Macmillan’s Magazine*.

AN APOLOGY FOR IDLERS.

BOSWELL: We grow weary when idle.

JOHNSON: That is, sir, because others being busy, we want company; but if we were idle, there would be no growing weary; we should all entertain one another.

JUST now, when every one is bound, under pain of a decree in absence convicting them of *Dis-respectability*, to enter on some lucrative profession, and labor therein with something not far short of enthusiasm, a cry from the opposite party who are content when they have enough, and like to look on and enjoy in the meanwhile, savors a little of bravado and gasconade. And yet this should not be. Idleness so called, which does not consist in doing nothing, but in doing a great deal not recognised in the dogmatic formularies of the ruling class, has as good a right to state its position as industry itself. It is admitted that the presence of people who refuse to enter in the great handicap race for six-penny pieces, is at once an insult and a disenchantment for those who do. A fine fellow (as we see so many) takes his

determination, votes for the sixpences, and, in the emphatic Americanism, “goes for” them. And while such an one is ploughing distressfully up the road, it is not hard to understand his resentment, when he perceives cool persons in the meadows by the wayside, lying with a handkerchief over their ears and a glass at their elbow. Alexander is touched in a very delicate place by the disregard of Diogenes. Where was the glory of having taken Rome for these tumultuous barbarians, who poured into the Senate house, and found the Fathers sitting silent and unmoved by their success? It is a sore thing to have labored along and scaled the arduous hill-tops, and when all is done, find humanity indifferent to your achievement. Hence physicists condemn the unphysical; financiers have only a superficial toleration

for those who know little of stocks; literary persons despise the unlettered; and people of all pursuits combine to disparage those who have none.

But though this is one difficulty of the subject, it is not the greatest. You could not be put in prison for speaking against industry, but you can be sent to Coventry for speaking like a fool. The greatest difficulty with most subjects is to do them well; therefore, please to remember this is an apology. It is certain that much may be judiciously argued in favor of diligence; only there is something to be said against it, and that is what, on the present occasion, I have to say. To state one argument is not necessarily to be deaf to all others, and that a man has written a book of travels in Montenegro, is no reason why he should never have been to Richmond.

It is surely beyond a doubt that people should be a good deal idle in youth. For though here and there a Lord Macaulay may escape from school honors with all his wits about him, most boys pay so dear for their medals that they never afterwards have a shot in their locker, and begin the world bankrupt. And the same holds true during all the time a lad is educating himself, or suffering others to educate him. It must have been a very foolish old gentleman who addressed Johnson at Oxford in these words: "Young man, ply your book diligently now, and acquire a stock of knowledge; for when years come upon you, you will find that poring upon books will be but an irksome task." The old gentleman seems to have been unaware that many other things besides reading grow irksome, and not a few become impossible, by the time a man has to use spectacles and cannot walk without a stick. Books are good enough in their own way, but they are a mighty bloodless substitute for life. It seems a pity to sit, like the Lady of Shalott, peering into a mirror, with your back turned on all the bustle and glamour of reality. And if a man reads very hard, as the old anecdote reminds us, he will have little time for thought. If you look back on your own education, I am sure it will not be the full, vivid, instructive hours of truantry that you regret; you would rather cancel some lack-lustre periods between sleep and waking in the

class. For my own part, I have attended a good many lectures in my time. I still remember that the spinning of a top is a case of Kinetic Stability. I still remember that Emphytepsis is not a disease, nor Stillicide a crime. But though I would not willingly part with such scraps of science, I do not set the same store by them as by certain other odds and ends that I came by in the open street while I was playing truant. This is not the moment to dilate on that mighty place of education, which was the favorite school of Dickens and Balzac, and turns out yearly many inglorious masters in the Science of the Aspects of Life. Suffice it to say this: if a lad does not learn in the streets, it is because he has no faculty of learning. Nor is the truant always in the streets, for if he prefers, he may go out by the gardened suburbs into the country. He may pitch on some tuft of lilacs over a burn, and smoke innumerable pipes to the tune of the water on the stones. A bird will sing in the thicket. And there he may fall into a vein of kindly thought, and see things in a new perspective. Why, if this be not education, what is? We may conceive Mr. Worldly Wiseman accosting such an one, and the conversation that should thereupon ensue:—

"How now, young fellow, what dost thou here?"

"Truly, sir, I take mine ease."

"Is not this the hour of the class? and should'st thou not be plying thy Book with diligence, to the end thou mayest obtain knowledge?"

"Nay, but thus also I follow after Learning, by your leave."

"Learning, quotha! After what fashion, I pray thee? Is it mathematics?"

"No, to be sure."

"Is it metaphysics?"

"Nor that."

"Is it some language?"

"Nay, it is no language."

"Is it a trade?"

"Nor a trade neither."

"Why, then, what is't?"

"Indeed, sir, as a time may soon come for me to go upon Pilgrimage, I am desirous to note what is commonly done by persons in my case, and where are the ugliest Sloughs and Thickets on the Road; as also, what manner of Staff is of the best service. Moreover, I lie

here, by this water, to learn by root-of-heart a lesson which my master teaches me to call Peace, or Contentment."

Hereupon Mr. Worldly Wiseman was much commoved with passion, and shaking his cane with a very threatenful countenance, broke forth upon this wise: "Learning, quotha!" said he; "I would have all such rogues scourged by the Hangman!"

And so he would go his way, ruffling out his cravat with a crackle of starch, like a turkey when it spreads its feathers.

Now this, of Mr. Wiseman's, is the common opinion. A fact is not called a fact, but a piece of gossip, if it does not fall into one of your scholastic categories. An inquiry must be in some acknowledged direction, with a name to go by; or else you are not inquiring at all, only lounging; and the workhouse is too good for you. It is supposed that all knowledge is at the bottom of a well, of the far end of a telescope. Sainte-Beuve, as he grew older, came to regard all experience as a single great book, in which to study for a few years ere we go hence; and it seemed all one to him whether you should read in Chapter xx., which is the differential calculus, or in Chapter xxxix., which is hearing the band play in the gardens. As a matter of fact, an intelligent person, looking out of his eyes and hearkening in his ears, with a smile on his face all the time, will get more true education than many another in a life of heroic vigils. There is certainly some chill and arid knowledge to be found upon the summits of formal and laborious science; but it is all round about you, and for the trouble of looking, that you will acquire the warm and palpitating facts of life. While others are filling their memory with a lumber of words, one-half of which they will forget before the week be out, your truant may learn some really useful art: to play the fiddle, to know a good cigar, or to speak with ease and opportunity to all varieties of men. Many who have "plied their books diligently," and know all about some one branch or another of accepted lore, come out of the study with an ancient and owl-like demeanor, and prove dry, stockish, and dyspeptic in all the better and brighter parts of life. Many make a large fortune, who remain underbred and pathetically stu-

pid to the last. And meantime there goes the idler, who began life along with them—by your leave, a different picture. He has had time to take care of his health and his spirits; he has been a great deal in the open air, which is the most salutary of all things for both body and mind; and if he has never read the great Book in very recondite places, he has dipped into it and skimmed it over to excellent purpose. Might not the student afford some Hebrew roots, and the business man some of his half-crowns, for a share of the idler's knowledge of life at large, and Art of Living? Nay, and the idler has another and more important quality than these. I mean his wisdom. He who has much looked on at the childish satisfaction of other people in their hobbies, will regard his own with only a very ironical indulgence. He will not be heard among the dogmatists. He will have a great and cool allowance for all sorts of people and opinions. If he finds no out-of-the-way truths, he will identify himself with no very burning falsehood. His way takes him along a by-road, not much frequented, but very even and pleasant, which is called Commonplace Lane, and leads to the Belvedere of Commonsense. Thence he shall command an agreeable, if no very noble prospect; and while others behold the East and West, the Devil and the Sunrise, he will be contentedly aware of a sort of morning hour upon all sublunary things, with an army of shadows running speedily and in many different directions into the great daylight of Eternity. The shadows and the generations, the shrill doctors and the plangent wars, go by into ultimate silence and emptiness; but underneath all this, a man may see, out of the Belvedere windows, much green and peaceful landscape; many firelit parlors; good people laughing, drinking, and making love, as they did before the Flood or the French Revolution; and the old shepherd telling his tale under the hawthorn.

Extreme *busyness*, whether at school or college, kirk or market, is a symptom of deficient vitality; and a faculty for idleness implies a catholic appetite and a strong sense of personal identity. There is a sort of dead-alive, hackneyed people about, who are scarcely conscious of living except in the exercise of some

conventional occupation. Bring these fellows into the country, or set them aboard ship, and you will see how they pine for their desk or their study. They have no curiosity; they cannot give themselves over to random provocations; they do not take pleasure in the exercise of their faculties for its own sake; and unless Necessity lays about them with a stick, they will even stand still. It is no good speaking to such folk: they *cannot* be idle, their nature is not generous enough; and they pass those hours in a sort of coma, which are not dedicated to furious moiling in the gold-mill. When they do not require to go to the office, when they are not hungry and have no mind to drink, the whole breathing world is a blank to them. If they have to wait an hour or so for a train, they fall into a stupid trance with their eyes open. To see them, you would suppose there was nothing to look at and no one to speak with; you would imagine they were paralyzed or alienated; and yet very possibly they are hard workers in their own way, and have good eyesight for a flaw in a deed or a turn of the market. They have been to school and college, but all the time they had their eye on the medal; they have gone about in the world and mixed with clever people, but all the time they were thinking of their own affairs. As if a man's soul were not too small to begin with, they have dwarfed and narrowed theirs by a life of all work and no play; until here they are at forty, with a listless attention, a mind vacant of all material of amusement, and not one thought to rub against another, while they wait for the train. Before he was breeched, he might have clambered on the boxes; when he was twenty, he would have stared at the girls; but now the pipe is smoked out, the snuff-box empty, and my gentleman sits bolt upright upon a bench, with lamentable eyes. This does not appeal to me as being Success in Life.

But it is not only the person himself who suffers from his busy habits, but his wife and children, his friends and relations, and down to the very people he sits with in a railway carriage or an omnibus. Perpetual devotion to what a man calls his business, is only to be sustained by perpetual neglect of many

other things. And it is not by any means certain that a man's business is the most important thing he has to do. To an impartial estimate it will seem clear that many of the wisest, most virtuous, and most beneficent parts that are to be played upon the Theatre of Life are filled by gratuitous performers, and pass, among the world at large, as phases of idleness. For in that Theatre, not only the walking gentlemen, singing chambermaids, and diligent fiddlers in the orchestra, but those who look on and clap their hands from the benches, do really play a part and fulfil important offices towards the general result. You are no doubt very dependent on the care of your lawyer and stockbroker, of the guards and signalmen who convey you rapidly from place to place, and the policemen who walk the streets for your protection; but is there not a thought of gratitude in your heart for certain other benefactors who set you smiling when they fall in your way, or season your dinner with good company? Colonel Newcome helped to lose his friend's money; Fred Bayham had an ugly trick of borrowing shirts; and yet they were better people to fall among than Mr. Barnes. And though Falstaff was neither sober nor very honest, I think I could name one or two long-faced Barabbas's whom the world could better have done without. Hazlitt mentions that he was more sensible of obligation to Northcote, who had never done him anything he could call a service, than to his whole circle of ostentatious friends; for he thought a good companion emphatically the greatest benefactor. I know there are people in the world who cannot feel grateful unless the favor has been done them at the cost of pain and difficulty. But this is a churlish disposition. A man may send you six sheets of letter-paper covered with the most entertaining gossip, or you may pass half-an-hour pleasantly, perhaps profitably, over an article of his; do you think the service would be greater, if he had made the manuscript in his heart's blood, like a compact with the devil? Do you really fancy you should be more beholden to your correspondent, if he had been damning you all the while for your importunity? Pleasures are more beneficial than duties because, like the quality

of mercy, they are not strained, and they are twice blest. There must always be two to a kiss, and there may be a score in a jest; but wherever there is an element of sacrifice, the favor is conferred with pain, and, among generous people, received with confusion. There is no duty we so much underrate as the duty of being happy. By being happy we sow anonymous benefits upon the world, which remain unknown even to ourselves, or when they are disclosed, surprise nobody so much as the benefactor. The other day, a ragged, barefoot boy ran down the street after a marble, with so jolly an air that he set everyone he passed into a good humor; one of these persons, who had been delivered from more than usually black thoughts, stopped the little fellow and gave him some money with this remark: "You see what sometimes comes of looking pleased." If he had looked pleased before, he had now to look both pleased and mystified. For my part, I justify this encouragement of smiling rather than tearful children; I do not wish to pay for tears anywhere but upon the stage; but I am prepared to deal largely in the opposite commodity. A happy man or woman is a better thing to find than a five-pound note. He or she is a radiating focus of good will; and their entrance into a room is as though another candle had been lighted. We need not care whether they could prove the forty-seventh proposition; they do a better thing than that, they practically demonstrate the great Theorem of the Liveableness of Life. Consequently, if a person cannot be happy without remaining idle, idle he should remain. It is a revolutionary precept; but, thanks to hunger and the workhouse, one not easily to be abused, and, within practical limits, it is one of the most incontestable truths in the whole Body of Morality. Look at one of your industrious fellows for a moment, I beseech you. He sows hurry and reaps indigestion; he puts a vast deal of activity out to interest, and receives a large measure of nervous derangement in return. Either he absents himself entirely from all fellowship, and lives a recluse in a garret, with carpet slippers and a leaden inkpot; or he comes among people swiftly and bitterly, in a contraction of his whole nervous

system, to discharge some temper before he returns to work. I do not care how much or how well he works, this fellow is an evil feature in other people's lives. They would be happier if he were dead. They could easier do without his services in the Circumlocution Office, than they can tolerate his fractious spirits. He poisons life at the well-head. It is better to be beggared out of hand by a scapegrace nephew, than daily hag-ridden by a peevish uncle.

And what, in God's name, is all this pother about? For what cause do they embitter their own and other people's lives? That a man should publish three or thirty articles a year, that he should finish or not finish his great allegorical picture, are questions of little interest to the world. The ranks of life are full; and although a thousand fall, there are always some to go into the breach. When they told Joan of Arc she should be at home minding women's work, she answered there were plenty to spin and wash. And so, even with your own rare gifts! When nature is "so careless of the single life," why should we coddle ourselves into the fancy that our own is of exceptional importance? Suppose Shakespeare had been knocked on the head some dark night in Sir Thomas Lucy's preserves, the world would have wagged on better or worse, the pitcher gone to the well, the scythe to the corn, and the student to his book; and no one been any the wiser of the loss. There are not many works extant, if you look the alternative all over, which are worth the price of a pound of tobacco to a man of limited means. This is a sobering reflection for the proudest of our earthly vanities. Even a tobacconist may, upon consideration, find no great cause for personal vainglory in the phrase; for although tobacco is an admirable sedative, the qualities necessary for retailing it are neither rare nor precious in themselves. Alas and alas! you may take it how you will, but the services of no single individual are indispensable. Atlas was just a gentleman with a protracted nightmare! And yet you see merchants who go and labor themselves into a great fortune and thence into the bankruptcy court; scribblers who keep scribbling at little articles until their temper is a cross to all who come about them, as though

Pharaoh should set the Israelites to make a pin instead of a pyramid; and fine young men who work themselves into a decline, and are driven off in a hearse with white plumes upon it. Would you not suppose these persons had been whispered, by the Master of the Ceremonies, the promise of some momentous destiny? and that this lukewarm bullet on which they play their

farces was the bull's-eye and centrepoint of all the universe? And yet it is not so. The ends for which they give away their priceless youth, for all they know, may be chimerical or hurtful; the glory and riches they expect may never come, or may find them indifferent; and they and the world they inhabit are so inconsiderable that the mind freezes at the thought.—*Cornhill Magazine.*

LIFE AND TIMES OF THOMAS BECKET.

BY JAMES ANTHONY FROUDE.

BECKET was now forty-four years old. The king was thirty. The ascendancy which Becket had hitherto exercised over his sovereign through the advantage of age was necessarily diminishing as the king came to maturity, and the two great antagonists, as they were henceforth to be, were more fairly matched than Becket perhaps expected to find them. The archbishop was past the time of life at which the character can be seriously changed. After forty men may alter their opinions, their policy, and their conduct; but they rarely alter their dispositions; and Becket remained as violent, as overbearing, as ambitious, as unscrupulous, as he had shown himself when chancellor, though the objects at which he was henceforth to aim were entirely different. It would be well for his memory were it possible to credit him with a desire to reform the Church of which he was the head, to purge away the corruption of it, to punish himself the moral disorders of the clergy, while he denied the right to punish them to the State. We seek in vain, however, for the slightest symptom of any such desire. Throughout his letters there is not the faintest consciousness that anything was amiss. He had been himself amongst the grossest of pluralists; so far from being ashamed of it, he still aimed at retaining the most lucrative of his benefices. The idea with which his mind was filled was not the purity of the Church, but the privilege and supremacy of the Church. As chancellor he had been at the head of the State under the king. As archbishop, in the name of the Church, he intended to be head both of

State and king; to place the pope, and himself as the pope's legate, in the position of God's viceregents. When he found it written that 'by me kings reign and princes decree judgment,' he appropriated the language to himself, and his single aim was to convert the words thus construed into reality.

The first public intimation which Becket gave of his intentions was his resignation of the chancellorship. He had been made archbishop that the offices might be combined; he was no sooner consecrated than he informed the king that the duties of his sacred calling left him no leisure for secular business. He did not even wait for Henry's return from Normandy. He placed the great seal in the hands of the chief justice, the young prince, and the barons of the Exchequer, demanding and receiving from them a hurried discharge of his responsibilities. The accounts, for all that appears, were never examined. Grim, perhaps, when accusing him of rapine and murder, was referring to a suppression of a disturbance in Aquitaine, not to any special act of which he was guilty in England; but the unsparing ruthlessness which he displayed on that occasion was an indication of the disposition which was displayed in all that he did, and he was wise in anticipating inquiry.

The king had not recovered from his surprise at such unwelcome news when he learned that his splendid minister had laid aside his magnificence and had assumed the habit of a monk, that he was always in tears—tears which flowed from him with such miraculous abundance as to evidence the working in him of some

special grace,* or else of some special purpose. His general conduct at Canterbury was equally startling. One act of charity, indeed, he had overlooked which neither in conscience nor prudence should have been forgotten. The mother of, Pope Adrian the Fourth was living somewhere in his province in extreme poverty, starving, it was said, of cold and hunger. The see of Canterbury, as well as England, owed much to Pope Adrian, and Becket's neglect of a person who was at least entitled to honorable maintenance was not unobserved at Rome. Otherwise his generosity was profuse. Archbishop Theobald had doubled the charities of his predecessor, Becket doubled Theobald's. Mendicants swarmed about the gates of the palace; thirteen of them were taken in daily to have their dinners, to have their feet washed by the archiepiscopal hands, and to be dismissed each with a silver penny in his pocket. The tears and the benevolent humiliations were familiar in aspirants after high church offices; but Becket had nothing more to gain. What could be the meaning of so sudden and so startling a transformation? Was it penitence for his crimes as chancellor? The tears looked like penitence; but there were other symptoms of a more aggressive kind. He was no sooner in his seat than he demanded the restoration of estates that his predecessors had alienated. He gave judgment in his own court in his own favor, and enforced his own decrees. Knights holding their lands from the Church on military tenure had hitherto done homage for them to the Crown. The new archbishop demanded the homage for himself. He required the Earl of Clare to swear fealty to him for Tunbridge Castle. The Earl of Clare refused and appealed to the king, and the archbishop dared not at once strike so large a quarry. But he showed his teeth with a smaller offender. Sir William Eyensford, one of the king's knights, was patron of a benefice in Kent. The archbishop presented a priest to it. The knight ejected the archbishop's nominee, and the archbishop excommunicated the knight. Such

* 'Ut putaretur possessor irrigui superioris et inferioris.' The 'superior' fountain of tears was the love of God; the 'inferior' was the fear of hell.

peremptory sentences, pronounced without notice, had a special inconvenience when directed against persons immediately about the king. Excommunication was like the plague; whoever came near the infected body himself caught the contagion, and the king might be poisoned without his knowledge. It had been usual in these cases to pay the king the courtesy of consulting him. Becket, least of all men, could have pleaded ignorance of such a custom. It seemed that he did not choose to observe it.* While courting the populace, and gaining a reputation as a saint among the clergy, the archbishop was asserting his secular authority, and using the spiritual sword to enforce it. Again, what did it mean, this interference with the rights of the laity, this ambition for a personal following of armed knights? Becket was not a dreamer who had emerged into high place from the cloister or the library. He was a man of the world intimately acquainted with the practical problems of the day, the most unlikely of all persons to have adopted a course so marked without some ulterior purpose. Henry discovered too late that his mother's eyes had been keener than his own. He returned to England in the beginning of 1163. Becket met him at his landing, but was coldly received.

In the summer of the same year, Pope Alexander held a council at Tours. The English prelates attended. The question of precedence was not this time raised. The Archbishop of Canterbury and his suffragans sat on the pope's right hand, the Archbishop of York and his suffragans sat on the pope's left. Whether anything of consequence passed on this occasion between the pope and Becket is not known: probably not; it is certain, however, that they met. On the archbishop's return to England the disputes between the secular and spiritual authorities broke into open conflict.

* 'Quod, quia rege minime certiorato archiepiscopus fecisset, maximam ejus indignationem incurrit. Asserit enim rex juxta dignitatem regni sui, quod nullus qui de rege teneat in capite vel minister ejus citra ipsius conscientiam sit excommunicandus ab aliquo, ne si hoc regem lateat lapsus ignorantia communicet excommunicato; comitem vel baronem ad se venientem in osculo vel consilio admittat.'—Matthew Paris, *Chronica Majora*, vol. ii. p. 222.

The Church principles of Gregory the Seventh were making their way through Europe, but were making their way with extreme slowness. Though the celibacy of the clergy had been decreed by law, clerical concubinage was still the rule in England. A *focaria* and a family were still to be found in most country parsonages. In theory the priesthood was a caste. In practice priests and their flocks were united by common interests, common pursuits, common virtues, and common crimes. The common law of England during the reigns of the Conqueror's sons had refused to distinguish between them. Clerks guilty of robbery or murder had been tried like other felons in the ordinary courts, and if found guilty had suffered the same punishments. The new pretension was that they were a peculiar order, set apart for God's service, not amenable to secular jurisdiction, and liable to trial only in the spiritual courts. Under the loose administration of Stephen, the judges had begun to recognise their immunity, and the conduct of the lower class of clergy was in consequence growing daily more intolerable. Clergy, indeed, a great many of them had no title to be called. They had received only some minor form of orders, of which no sign was visible in their appearance or conduct. They were clerks only so far as they held benefices and claimed special privileges; for the rest, they hunted, fought, drank, and gambled like other idle gentlemen.

In the autumn of 1163 a specially gross case of clerical offence brought the question to a crisis.

Philip de Broi, a young nobleman who held a canonry at Bedford, had killed some one in a quarrel. He was brought before the court of the Bishop of Lincoln, where he made his purgation *ecclesiastico jure*—that is to say, he paid the usual fees and perhaps a small fine. The relations of the dead man declared themselves satisfied, and Philip de Broi was acquitted. The Church and the relations might be satisfied; public justice was not satisfied. The Sheriff of Bedfordshire declined to recognise the decision, and summoned the canon a second time. The canon insulted the sheriff in open court, and refused to plead before him. The sheriff referred the matter to the king. The king sent for Philip de

Broi, and cross-questioned him in Becket's presence. It was not denied that he had killed a man. The king inquired what Becket was prepared to do. Becket's answer, for the present and all similar cases, was that a clerk in orders accused of felony must be tried in the first instance in an ecclesiastical court, and punished according to ecclesiastical law. If the crime was found to be of peculiarly dark kind, the accused might be deprived of his orders, and, if he again offended, should lose his privilege. But for the offence for which he was deprived, he was not to be again tried or again punished; the deprivation itself was to suffice.

The king, always moderate, was unwilling to press the question to extremity. He condemned the judgment of the bishop of Lincoln's court. He insisted that the murderer should have a real trial. But he appointed a mixed commission of bishops and laymen to try him, the bishops having the preponderating voice.

Philip de Broi pleaded that he had made his purgation in the regular manner, that he had made his peace with the family of the man that he had killed, and that the matter was thus ended. He apologised for having insulted the sheriff, and professed himself willing to make reasonable reparation. The sentence of the commission was that his benefices should be sequestered for two years, and that, if the sheriff insisted upon it, he should be flogged.

So weak a judgment showed Henry the real value of Becket's theory. The criminal clerk was to be amenable to the law as soon as he had been degraded, not before; and it was perfectly plain that clerks never would be degraded. They might commit murder upon murder, robbery upon robbery, and the law would be unable to touch them. It could not be. The king insisted that a sacred profession should not be used as a screen for the protection of felony. He summoned the whole body of the bishops to meet him in a council at Westminster in October.

The council met. The archbishop was resolute. He replied for the other bishops in an absolute refusal to make any concession. The judges and the laity generally were growing excited. Had the

clergy been saints, the claims advanced for them would have been scarcely tolerable. Being what they were, such pretensions were ridiculous. Becket might speak in their name. He did not speak their real opinions. Arnulf, Bishop of Lisieux, came over to use his influence with Becket, but he found him inexorable. To risk the peace of the Church in so indefensible a quarrel seemed obstinate folly. The Bishop of Lisieux and several of the English prelates wrote privately to the pope to entreat him to interfere.

Alexander had no liking for Becket. He had known him long, and had no belief in the lately assumed airs of sanctity. Threatened as he was by the emperor and the antipope, he had no disposition to quarrel with Henry, nor in the particular question at issue does he seem to have thought the archbishop in the right. On the spot he despatched a legate, a monk named Philip of Aumone, to tell Becket that he must obey the laws of the realm, and submit to the king's pleasure.

The king was at Woodstock. The archbishop, thus commanded, could not refuse to obey. He repaired to the court. He gave his promise. He undertook, *bonâ fide et sine malo ingenio*, to submit to the laws of the land, whatever they might be found to be. But a vague engagement of this kind was unsatisfactory, and might afterwards be evaded. The question of the immunities of the clergy had been publicly raised. The attention of the nation had been called to it. Once for all the position in which the clergy were to stand to the law of the land must be clearly and finally laid down. The judges had been directed to inquire into the customs which had been of use in England under the king's grandfather, Henry the First. A second council was called to meet at Clarendon, near Winchester, in the following January, when these customs, reduced to writing, would be placed in the archbishops' and bishops' hands, and they would be required to consent to them in detail.

The spiritual power had encroached on many sides. Every question, either of person, conduct, or property, in which an ecclesiastic was a party, the Church courts had endeavored to reserve for themselves. Being judges in their own causes, the decisions of the clergy were

more satisfactory to themselves than to the laity. The practice of appealing to Rome in every cause in which a churchman was in any way connected had disorganised the whole course of justice. The Constitutions (as they were called) of Clarendon touched in detail on a variety of points on which the laity considered themselves injured. The general provisions embodied in these famous resolutions would now be scarcely challenged in the most Catholic country in the world.

1. During the vacancy of any archbishopric, bishopric, abbey, or priory of royal foundation, the estates were to be in the custody of the Crown. Elections to these preferments were to be held in the royal chapel, with the assent of the king and council.

2. In every suit to which a clerk was a party, proceedings were to commence before the king's justices, and these justices were to decide whether the case was to be tried before a spiritual or a civil court. If it was referred to a spiritual court, a civil officer was to attend to watch the trial, and if a clerk was found guilty of felony the Church was to cease to protect him.

3. No tenant-in-chief of the king, or officer of his household, was to be excommunicated, or his lands laid under an interdict, until application had been first made to the king, or, in his absence, to the chief justice.

4. Laymen were not to be indicted in a bishop's court, either for perjury or other similar offence, except in the bishop's presence by a lawful prosecutor and with lawful witnesses. If the accused was of so high rank that no prosecutor would appear, the bishop might require the sheriff to call a jury to inquire into the case.

5. Archbishops, bishops, and other great persons were forbidden to leave the realm without the king's permission.

6. Appeals were to be from the archdeacon to the bishop, from the bishop to the archbishop, from the archbishop to the king, and no further; that, by the king's mandate, the case might be ended in the archbishop's court.*

* The Constitutions were seventeen in all. The articles in the text are an epitome of those which the Church found most objectionable.

The last article the king afterwards explained away. It was one of the most essential, but he was unable to maintain it; and he was rash, or he was ill-advised, in raising a second question, on which the pope would naturally be sensitive, before he had disposed of the first. On the original subject of dispute, whether benefit of clergy was to mean impunity to crime, the pope had already practically decided, and he could have been brought without difficulty to give a satisfactory judgment upon it. Some limit also might have been assigned to the powers of excommunication which could be so easily abused, and which, if abused, might lose their terrors. But appeals to the pope were the most lucrative source of the pope's revenue. To restrict appeals was to touch at once his pride and his exchequer.

The Constitutions were drafted, and when the council assembled were submitted to Becket for approval. He saw in the article on the appeals a prospect of recovering Alexander's support, and he again became obstinate. None of the bishops, however, would stand by him. There was a general entreaty that he would not reopen the quarrel, and he yielded so far as to give a general promise of conformity.* It was a promise given dishonestly—given with a conscious intention of not observing it. He had been tempted, he afterwards said, by an intimation that, if he would but seem to yield, the king would be satisfied. Becket was a lawyer. He could not really have been under any such illusion. In real truth he did not mean to be bound by the language of the Constitutions at all, but only by his own language, from which it would be easy to escape. The king by this time knew the man with whom he had to deal. The Constitutions were placed in writing before the bishops, who one and all were required to signify their adherence under their several hands and seals.

Becket, we are innocently told by his biographer Grim, now saw that he was to be entrapped. There was no entrapping if his promise had been honestly given. The use of the word is a frank confes-

sion that he had meant to deceive Henry by words, and that he was being caught in his own snare. When driven to bay, the archbishop's fiery nature always broke into violence. 'Never, never,' he said; 'I will never do it so long as breath is in my body.*' In affected penitence for his guilty compliance, he retired to his see to afflict his flesh with public austerities. He suspended himself *ab altaris officio* (from the service of the altar) till the pope should absolve him from his sin. The Bishop of Evreux, who was present at Clarendon, advised him to write to the pope for authority to sign. He pretended to comply, but he commissioned a private friend of his own, John of Salisbury, who was on the continent, to prepare for his reception on the flight which he already meditated from England, and by all methods, fair and foul, to prevent the pope and cardinals from giving the king any further encouragement. The Bishop of Lisieux, on the other hand, whose previous intercession had decided the pope in the king's favor, went to Sens in person to persuade Alexander to cut the knot by sending legatine powers to the Archbishop of York to override Becket's obstinacy and to consent in the name of the Church instead of him.

John of Salisbury's account of his proceedings gives a curious picture of the cause of God, as Becket called it, on its earthly and grosser side.

The Count of Flanders (he wrote to the archbishop) is most anxious to help you. If extremity comes, send the count word, and he will provide ships.† Everything which passed in London and at Winchester (Clarendon) is better known here than in England itself. I have seen the King of France, who undertakes to write to the pope in your behalf. The feeling towards our king among the

* 'Sanctus archiepiscopus tunc primum dolum quem fuerat suspicatus advertens, interposita fide quam Deo debuit: "Non hoc fiet," respondit, "quam diu in hoc vasculo spirat hæc anima." Nam domestici regis securum fecerant archiepiscopum quod nunquam scriberentur leges, nunquam illarum fieret recordatio, si regem verbo tantum in audientiâ procerum honorasset. Fictâ se conjuratione seductum videns, ad animam usque tristabatur.'—*Materials for the History of Thomas Becket*, vol. ii. p. 382.

† 'Naves enim procurabit si hoc necessitas vestra exegerit, et ipse ante, ut oportet, præmoneatur.'—*Joannis Sarisburiensis Epistola*, vol. i. p. 188.

* Foliot, however, says that many of the bishops were willing to stand out, and that Becket himself advised a false submission (Foliot to Becket, Giles, vol. i. p. 381).

French people is of fear and hatred. The pope himself I have avoided so far. I have written to the two cardinals of Pisa and Pavia to explain the injury which will ensue to the Court of Rome if the Constitutions are upheld. I am not sanguine, however. 'Many things make against us, few in our favor. Great men will come over here with money to spend, *quam nunquam Roma contempsit* (which Rome never despised). The pope himself has always been against us in this cause, and throws in our teeth that after all which Pope Adrian did for the see of Canterbury you are allowing his mother to starve in cold and hunger.^a You write that if I cannot succeed otherwise I may promise two hundred marks. The other side will give down three or four hundred sooner than be defeated,[†] and I will answer for the Romans that they will prefer the larger sum in hand from the king to the smaller in promise from you. It is true we are contending for the liberties of the Church, but your motive, it will be said, is not the Church's welfare, but your own ambition. They will propose (I have already heard a whisper of it) that the pope shall cross to England in person to crown the young king and take your place at Canterbury for a while. If the Bishop of Lisieux sees the pope, he will do mischief. I know the nature of him.[‡]

Though the archbishop was convulsing the realm for the sacred right of appeals to Rome, it is plain from this letter that he was aware of the motives by which the papal decisions were governed, and that he was perfectly ready to address himself to them. Unfortunately his resources were limited, and John of Salisbury's misgivings were confirmed. The extraordinary legatine powers were conceded not to the Archbishop of York—it was held inexpedient to set York above Canterbury—but to the king himself. To Becket the pope wrote with some irony on hearing that he had suspended himself. He trusted the archbishop was not creating needless scandal. The promise to the king had been given with good intentions, and could not therefore be a serious sin. If there was anything further on his conscience (did the pope suspect that the promise had been dishonest?), he might confess it to any discreet priest. He (the pope) meanwhile absolved him, and advised

and even enjoined him to return to his duties.

The first campaign was thus over, and the king was so far victorious. The legatine powers having arrived, the Constitutions were immediately acted upon. The number of criminals among the clergy happened to be unusually large.^{*} They were degraded, sent to trial, and suffered in the usual way by death or mutilation. 'Then,' say Becket's despairing biographers, 'was seen the mournful spectacle of priests and deacons who had committed murder, manslaughter, theft, robbery, and other crimes, carried in carts before the king's commissioners and punished as if they had been ordinary men.' The archbishop clamored, threatened, and, as far as his power went, interfered. The king was firm. He had sworn at his coronation, he said, to do justice in the realm, and there were no greater villains in it than many of the clergy.[†] That bishops should take public offenders out of custody, absolve them, and let them go, was not to be borne. It was against law, against usage, against reason. It could not be. The laity were generally of the king's opinion. Of the bishops some four or five agreed privately with Becket, but dared not avow their opinions. The archbishop perceived that the game was lost unless he could himself see the pope and speak to him. He attempted to steal over from Sandwich, but the boatmen recognised him midway across the channel and brought him back.

The pope had sent legatine powers to the king, and the king had acted upon them; but something was still wanting for general satisfaction. He had been required to confirm the Constitutions by a bull. He had hesitated to do it, and put off his answer. At length he sent the Archbishop of Rouen to England to endeavor to compromise matters. The formal consent of the Church was still wanting, and in the absence of it persons who agreed with the king in principle were uneasy at the possible consequences.

* 'Cujus mater apud vos algore torquetur et inedia.'

† Sed scribitis, si alia via non patuerit, promittamus ducentas marcas. At certe pars adversa antequam frustretur trecentas dabit aut quadringentas.'

‡ John of Salisbury to Becket (abridged). Letters, vol. i. p. 187.

* 'Sed et ordinatorum inordinati mores inter regem et archiepiscopum auxere malitiam, qui solito abundantius per idem tempus apparebant, publicis irretiti criminibus.'—*Materials &c.* vol. ii. p. 385.

† 'In omni scelere et flagitio nequiores.'

The clergy might be wicked, but they were magicians notwithstanding, and only the chief magician could make it safe to deal with them. In the autumn of 1164 the king once more summoned a great council to meet him at Northampton Castle. The attendance was vast. Every peer and prelate not disabled was present, all feeling the greatness of the occasion. Castle, town, and monasteries were thronged to overflowing. Becket only had hesitated to appear. His attempt to escape to the continent was constructive treason. It was more than treason. It was a violation of a distinct promise which he had given to the king.* The storm which he had raised had unloosed the tongues of those who had to complain of his ill-usage of them either in his archbishop's court or in the days when he was chancellor. The accounts had been looked into, and vast sums were found to have been received by him of which no explanation had been given. Who was this man, that he should throw the country into confusion, in the teeth of the bishops, in the teeth (as it seemed) of the pope, in the teeth of his own oath given solemnly to the king at Woodstock? The Bishop of London, in a letter to Becket, charged him with having directly intended to commit perjury.† The first object of the Northampton council was to inquire into his conduct, and he had good reason to be alarmed at the probable consequences. He dared not, however, disobey a peremptory summons. He came, attended by a large force of armed knights, and was entertained at the monastery of St. Andrews. To anticipate inquiry into his attempted flight, he applied for permission on the day of his arrival to go to France to visit the pope. The king told him that he could not leave the realm until he had answered for a decree which had been given in his court. The case was referred to the assembled peers, and he was condemned and fined. It was a bad augury for him.

* Foliot to Becket, Giles, vol. ii. p. 387.

† Foliot says that at Clarendon Becket said to the bishops, 'It is the Lord's will I should perjure myself. For the present I submit and incur perjury, to repent of it, however, as I best may.' (Giles, vol. i. p. 381.) Foliot was reminding Becket of what passed on that occasion.

Other charges lay thick, ready to be produced. He was informed officially that he would be required to explain the Chancery accounts, and answer for the money which he had applied to his own purposes. His proud temper was chafed to the quick, and he turned sick with anger.* His admirers see only in these demands the sinister action of a dishonest tyranny. Oblique accusations, it is said, were raised against him, either to make him bend or to destroy his character. The question is rather whether his conduct admitted of explanation. If he had been unjust as a judge, if he had been unscrupulous as a high officer of state, such faults had no unimportant bearing on his present attitude. He would have done wisely to clear himself if he could; it is probable that he could not. He refused to answer, and he sheltered himself behind the release which he had received at his election. His refusal was not allowed; a second summons the next day found him in his bed, which he said that he was too ill to leave. This was on a Saturday. A respite was allowed him till the following Monday. On Monday the answer was the same. Messenger after messenger brought back word that the archbishop was unable to move. The excuse might be true—perhaps partially it was true. The king sent two great peers to ascertain, and in his choice of persons he gave a conclusive answer to the accusation of desiring to deal unfairly with Becket; one was Reginald, Earl of Cornwall, the king's uncle, who as long as Becket lived was the best friend that he had at the court; the other was the remarkable Robert, Earl of Leicester, named Bossu (the Hunchback). This Robert was a monk of Leicester Abbey, though he had a dispensation to remain at the court, and so bitter a Papist was he that when the schismatic Archbishop of Cologne came afterwards to London he publicly insulted him and tore down the altar at which he had said mass. Such envoys would not have been selected with a sinister purpose. They found that the archbishop could attend if he wished, and they warned him of the dan-

* 'Propter iram et indignationem quam in animo conceperat decedit in gravem ægritudinem.'—Hoveden, vol. i. p. 225.

ger of trying the king too far. He pleaded for one more day. On the Tuesday morning he undertook to be present.

His knights, whose first allegiance was to the Crown, had withdrawn from the monastery, not daring or not choosing to stand by a prelate who appeared to be defying his sovereign. Their place had been taken by a swarm of mendicants, such as the archbishop had gathered about him at Canterbury. He prepared for the scene in which he was to play a part with the art of which he was so accomplished a master. He professed to expect to be killed. He rose early. Some of the bishops came to see and remonstrate with him; they could not move his resolution, and they retired. Left to himself, he said the mass of St. Stephen in which were the words: 'The kings of the earth stood up, and the rulers took counsel together against the Lord and against his anointed.' He then put on a black stole and cap, mounted his palfrey, and, followed by a few monks and surrounded by his guard of beggars, rode at a foot's pace to the castle, preceded by his cross-bearer.

The royal castle of Northampton was a feudal palace of the usual form. A massive gateway led into a quadrangle; across the quadrangle was the entrance of the great hall, and at the upper end of the hall doors opened into spacious chambers beyond. The archbishop alighted at the gate, himself took his cross in his right hand, and, followed by a small train, passed through the quadrangle, and passed up the hall, 'looking like the lion-man of the prophet's vision.'* The king and the barons were in one chamber, the bishops in another. The archbishop was going in this attitude into the king's presence, that the court might see the person on whom they dared to sit in judgment; but certain 'Templars' warned him to beware. He entered among his brethren, and moved through them to a chair at the upper end of the room.

He still held his cross. The action was unusual; the cross was the spiritual sword, and to bear it thus conspicuously

in a deliberative assembly was as if a baron had entered the council in arms. The mass of St. Stephen had been heard of, and in the peculiar temper of men's minds was regarded as a magical incantation.* The Bishop of Hereford advanced and offered to carry the cross for him. Foliot, Bishop of London (*filius hujus sæculi*, 'a son of this world'), said that if he came thus armed into the court the king would draw a sharper sword, and he would see then what his arms would avail him. Seeing him still obstinate, Foliot tried to force the cross out of his hands. The Archbishop of York added his persuasions; but the Archbishop of York peculiarly irritated Becket, and was silenced by a violent answer. 'Fool thou hast ever been,' said the Bishop of London, 'and from thy folly I see plainly thou wilt not depart.' Cries burst out on all sides. 'Fly!' some one whispered in the archbishop's ear; 'fly, or you are a dead man.' The Bishop of Exeter came in at the moment, and exclaimed that unless the archbishop gave way they would all be murdered. Becket never showed to more advantage than in moments of personal danger. To the Bishop of Exeter he gave a sharp answer, telling him that he savored not the things of God. But he collected himself. He saw that he was alone. He stood up, he appealed to the pope, charged the bishops on peril of their souls to excommunicate any one who dared to lay hands on him, and moved as if he intended to withdraw. The Bishop of Winchester bade him resign the archbishopric. With an elaborate oath (*cum interminabili juratione*) he swore that he would not resign. The Bishop of Chichester then said: 'As our primate we were bound to obey you, but you are our primate no longer; you have broken your oath. You swore allegiance to the king, and you subvert the common law of the realm. We too appeal to the pope. To his presence we summon you.' 'I hear what you say,' was all the answer which Becket deigned to return. The doors from the adjoining chamber were now flung open. The old Earl of Cornwall, the hunchback Leicester, and

* 'Assumens faciem hominis, faciem leonis, prophetis illis animalibus a prophetâ descriptis simillimus.'—Herbert of Bosham.

* It was said to have been done *per artem magicam et in contemptu regis*. (Hoveden.) He had the eucharist concealed under his dress.

a number of barons entered. 'My lord,' said the Earl of Leicester to the archbishop, 'the king requires you to come to his presence and answer to certain things which will then be alleged against you, as you promised yesterday to do.' 'My lord earl,' said Becket, 'thou knowest how long and loyally I served the king in his worldly affairs. For that cause it pleased him to promote me to the office which now I hold. I did not desire this office; I knew my infirmities. When I consented it was for the sake of the king alone. When I was elected I was formally acquitted of my responsibilities for all that I had done as chancellor. Therefore I am not bound to answer, and I will not answer.'

The earls carried back the reply. The peers by a swift vote declared that the archbishop must be arrested and placed under guard.

The earls re-entered, and Leicester approached him and began slowly and reluctantly to announce the sentence. 'Nay,' said Becket, lifting his tall meagre figure to its haughtiest height, 'do thou first listen to me. The child may not judge his father. The king may not judge me, nor may you judge me. I will be judged under God by the pope alone, to whom in your presence I appeal. I forbid you under anathema to pronounce your sentence. And you, my brethren,' he said, turning to the bishops, 'since you will obey man rather than God, I call you too before the same judgment-seat. Under the protection of the Apostolic See, I depart hence.'

No hand was raised to stop him. He swept through the chamber and flung open the door of the hall. He stumbled on the threshold, and had almost fallen, but recovered himself. The October evening was growing into twilight. The hall was thronged with the retainers of the king and the barons. Dinner was over. The floor was littered with rushes and fragments of rolls and broken meat. Draughts of ale had not been wanting, and young knights, pages, and retainers were either lounging on the benches or talking in eager and excited groups. As Becket appeared among them, fierce voices were heard crying 'Traitor! traitor! Stop the traitor!' Among the loudest were Count Hamelin, the king's illegitimate brother, and Sir Ranulf de

Broc, one of the Canterbury knights. Like a bold animal at bay, Becket turned sharply on these two. He called Count Hamelin a bastard boy. He reminded De Broc of some near kinsman of his who had been hanged. The cries rose into a roar; sticks and knots of straw were flung at him. Another rash word, and he might have been torn in pieces. Some high official hearing the noise came in and conducted him safely to the door.

In the quadrangle he found his servants waiting with his palfrey. The great gate was locked, but the key was hanging on the wall; one of them took it and opened the gate, the porters looking on, but not interfering. Once outside he was received with a cheer of delight from the crowd, and with a mob of people about him he made his way back to the monastery. The king had not intended to arrest him, but he could not know it, and he was undoubtedly in danger from one or other of the angry men with whom the town was crowded. He prepared for immediate flight. A bed was made for him in the chapel behind the altar. After a hasty supper with a party of beggars whom he had introduced into the house, he lay down for a few hours of rest. At two in the morning, in a storm of wind and rain, he stole away disguised with two of the brethren. He reached Lincoln soon after daybreak, and from Lincoln, going by cross paths, and slipping from hiding-place to hiding-place, he made his way in a fortnight to a farm of his own at Eastry, near Sandwich. He was not pursued. It was no sooner known that he was gone from Northampton than a proclamation was sent through the country forbidding every man under pain of death to meddle with him. The king had determined to allow the appeal, and once more to place the whole question in the pope's hands. The Earl of Arundel with a dozen peers and bishops was despatched at once to Sens to explain what had happened, and to request Alexander to send legates to England to investigate the quarrel and to end it. The archbishop, could he have consented to be quiet, might have remained unmolested at Canterbury till the result could be ascertained. But he knew too well the forces which would be at work in the papal court to wait for its verdict. His confidence was only in himself. Could

he see the pope in person, he thought that he could influence him. He was sure of the friendship of Lewis of France, who was meditating a fresh quarrel with Henry, and would welcome his support. His own spiritual weapons would be as effective across the Channel as if used in England, while he would himself be in personal security. One dark night he went down with his two companions into Sandwich, and in an open boat crossed safely to Gravelines. At St. Omer he fell in with his old friend Chief Justice de Luci, who was returning from a mission to the court of France. De Luci urged him to return to England and wait for the pope's decision, warning him of the consequences of persisting in a course

which was really treasonable, and undertaking that the king would forgive him if he would go back at once. Entreaties and warnings were alike thrown away. He remained and despatched a letter to the pope saying briefly that he had followed the example of his holiness in resisting the encroachments of princes, and had fled from his country. He had been called to answer before the king as if he had been a mere layman. The bishops, who ought to have stood by him, had behaved like cowards. If he was not sustained by his holiness, the Church would be ruined, and he would himself be doubly confounded.—*The Nineteenth Century*.

MY PECULIARITY.

BY HENRY S. LEIGH.

WE poets, when suddenly summoned away
 From the world's petty sphere to the region of rhyme,
 The importunate call at a moment obey,
 To indulge in the playful or grasp the sublime.
 I've indited impromptus again and again,
 While bewildered—it matters not how or by whom;
 I can write at my club, on the boat, in a train;—
 But I never can write with a wasp in the room.

'Tis twilight. The suburbs are tranquil and calm
 (And my own is as tranquil and calm as the rest),
 So I sit by my lattice, inhaling the balm
 That is borne on the zephyr—methinks from the west.
 I am far from the haunts and the passions of men,
 Among birds in high feather and roses in bloom;—
 What an idyll to-night could I give to my pen!
 But I never could write with a wasp in the room.

From Flora's dominion, ah! why should he roam,
 To invade—and unbidden—Apollo's domain?
 I opine that his object in tracking me home
 Is to drive the gay anapaests out of my brain.
 Fly away, pretty guest, fly away from the shade!
 'Tis philosophers only that bask in the gloom.
 I have money to earn, there is verse to be made;
 And I never can write with a wasp in the room.

Not gone? Very well, then; 'tis war to the knife.
 I appeal to the *ultima ratio* of kings.
 I have proffered you liberty. Look to your life!
 Cotton handkerchiefs knotted are dangerous things.
 If that weapon should fail, there are others in store:
 I've a poker, a shovel, some tongs, and a broom.
 I am eager for work, as I told you before;
 And I never can write with a wasp in the room.

'Tis finished: retributive justice is dealt.

You may think me severe, but it's one of my ways;

For, when once an antipathy comes to be felt,

It is felt evermore to the end of our days.

When my own shall be ended—it matters not how—

They may carve on the marble that graces my tomb:

'He was not a bad poet, as poets go *now*;

But he never could write with a wasp in the room!'

Belgravia Magazine.

THE STORY OF THE PRISM.

WHEN we see the brilliant colors reflected by the glass lustres and chandeliers which are now so commonly used for decorative purposes, we seldom bestow a thought upon them, regarding them as things too common, perhaps too trivial to be worthy of any particular attention. We are content to know that a triangular piece of glass will exhibit certain bright colors—they look very pretty, and it does not matter much how they happen to be there. This is the common way of dealing with the natural phenomena which meet us at every turn in this wonderful world in which we live. The progress of civilisation, with all its triumphs of Science and Art, would indeed have been slow, if not altogether at a dead-lock, if every one had been content to treat such matters in this summary fashion. But happily, this has not been the case, for certain intellectual giants have from time to time arisen; who have grappled with these things, and have devoted their lives to their investigation.

Such a one was Sir Isaac Newton, who just about two centuries ago, with rough appliances fashioned by his own hands, inquired into the meaning of the colors to which we have just alluded. We cannot do better than quote his own words, from a letter which he addressed to the Royal Society in 1672; for his statement is so clear that a child can easily understand what he means. 'I procured me a triangular glass prisme,' writes he, 'to try therewith the celebrated phenomena of colors. And in order thereto having darkened my chamber and made a small hole in my window-shuts to let in a convenient quantity of the sun's light, I placed my prisme at his entrance, that it might be thereby refracted to the opposite wall.'

He goes on to say how surprised he

was to find that the ray of light, after passing through the prism, instead of being thrown upon the wall in the form of a round spot, was spread out into a beautiful colored ribbon; this ribbon being red at one end, and passing through orange yellow green and blue, to violet at its other extremity. Upon this experiment is founded the theory of color, which with few modifications, still remains unquestioned.

It was not until the beginning of the present century that this experiment of Newton's (repeated as it had doubtless been in the meantime by many philosophers) was found by Dr. Wollaston to possess certain peculiarities which defied all explanation. He found that, by substituting a *slit* in the shutter of the darkened room for the round hole which Newton had used, the ribbon of color, or spectrum as it is now called, was intersected by certain dark lines. This announcement, although at the time it did not excite much attention, led to further experiments by different investigators, who, however, vainly endeavored to solve the meaning of these bands of darkness. It was first observed by an optician of Munich that they never varied, but always occupied a certain fixed position in the spectrum; moreover he succeeded in mapping them to the number of nearly six hundred, for which reason they have been identified with his name, as 'Fraunhofer's lines.'

In 1830, when improved apparatus came into use, it was found that the number of these lines could be reckoned by thousands rather than hundreds; but their meaning still remained a puzzle to all. By this time Newton's darkened room with the hole in the 'window-shuts' had been, as we have just said, greatly improved upon. The prism was now placed in a tube, at one end of

which was a slit to admit the light, while the retina of the observer's eye received the impression of the spectrum at the other end. This is the simplest form of the instrument now known as the spectroscope, and which is, as we have shewn, a copy in miniature of Newton's arrangement for the decomposition of white light into its constituent colors.

We must now go back a few years to record some experiments carried out by Herschel, which, quite independent of the spectroscope, helped others to solve the problem connected with the dark lines. He pointed out that metals, when rendered incandescent under the flame of the blow-pipe, exhibited various tints. He further suggested that as the color thus shewn was distinctive for each metal, it might be possible by these means to work out a new system of analysis. A familiar instance of this property in certain metals may be seen in the red and green fire which is burned so lavishly during the pantomime season at our theatres; the red owing its color to a preparation of the metal strontium, and the green in like manner to barium. Pyrotechnists also depend for their tints not only upon the two metals just named, but also upon sodium, antimony, copper, potassium, and magnesium. Wheatstone also noticed the same phenomena when he subjected metals to the intense heat of the electric current; but it was reserved for others to examine these colors by means of the spectroscope. This was done by Bunsen and Kirchhoff in 1860, who by their researches in this direction, laid the foundation of a totally new branch of science. They discovered that each metal when in an incandescent state exhibited through the prism certain distinctive brilliant lines. They also found that these brilliant lines were identical in position with many of Fraunhofer's dark lines; or to put it more clearly, each bright line given by a burning metal found its exact counterpart in a dark line on the solar spectrum. It thus became evident that there was some subtle connection between these brilliant lines and the dark bands which had puzzled observers for so many years. Having this clue, experiments were pushed on with renewed vigor, until by some happy chance, the *vapors* of the burning metals were examined through the agency of

the electric light. That is to say, the light from the electric lamp was permitted to shine through the vapor of the burning metal under examination, forming, so to speak, a background for the expected lines. It was now seen that what before were bright bands on a dark ground, were now dark bands on a bright ground. This discovery of the reversal of the lines peculiar to a burning metal, when such metal was examined in the form of vapor, led to the enunciation of the great principle, that 'vapors of metals at a lower temperature absorb exactly those rays which they emit at a higher.'

To make this important fact more clear, we will suppose that upon the red-hot cinders in an ordinary fire-grate is thrown a handful of saltpetre. (This salt is, as many of our readers will know, a chemical combination of the metal potassium with nitric acid—hence called nitrate of potash, or more commonly nitre.) On looking through the spectroscope at the dazzling molten mass thus produced, we should find that (instead of the colored ribbon which the sunlight gives) all was black, with the exception of a brilliant violet line at the one end of the spectrum, and an equally brilliant red line at the other end. This is the spectrum peculiar to potassium; so that, had we not been previously cognisant of the presence of that metal, and had been requested to name the source of the flame produced, the spectroscope would have enabled us to do so without difficulty. We will now suppose that we again examine this burning saltpetre under altered conditions. We will place the red-hot cinders in a shovel, and remove them to the open air, throwing upon them a fresh supply of the nitre. We can now examine its vapor, whilst the sunlight forms a background to it; when we shall see that the two bright colored lines have given place to dark ones. This experiment will prove the truth of Kirchhoff's law so far as potassium is concerned, for the molten mass first gave us the bright lines, and afterwards by examining the cooler vapor we saw that they were transformed to bands of darkness; in other words they were absorbed. (In describing the foregoing experiment, we have purposely chosen a well-known substance, such as saltpetre, for illustration; but in prac-

tice, for reasons of a technical nature, a different form of potassium would be employed.) Kirchhoff's discovery forms by far the most important incident in the history of the spectroscope, for upon it are based the new sciences of Solar and Stellar Chemistry, to which we will now direct our readers' attention.

The examination of the heavenly bodies by means of the spectroscope has not only corroborated in a very marvelous manner the discoveries of various astronomers, but it has also been instrumental in correcting certain theories and giving rise to new ones. The existence of a feebly luminous envelope extending for hundreds of thousands of miles beyond the actual surface of the sun, has been made evident whenever an eclipse has shut off the greater light, and so permitted it to be viewed. The prism has shewn this envelope, or chromosphere as it called, to consist of a vast sea of hydrogen gas, into which enormous flames of magnesium are occasionally injected with great force. (We need hardly remark that these facts are arrived at analogously by identifying the absorption lines with those given by the same elements when prepared artificially in the laboratory.) This chromosphere can, by the peculiar lines which it exhibits in the spectroscope, be made manifest whenever the sun itself is shining.

The foregoing discovery has given astronomers the advantage—during a transit of Venus—of viewing the position of the planet both before and after its passage across the sun's disc; for it is evident that the presence of an opaque body in front of the chromosphere will cut off the spectral lines in the path which it follows; so that although the planet is invisible its exact place can be noted. From a comparison of these lines with those that can be produced in the laboratory, it is rendered probable that no less than thirteen different metals are in active combustion in the body of the sun. From certain geological appearances, it is conjectured that our own earth was once in this state of igneous fusion, and although our atmosphere is now reduced to a few simple elements, it must once have possessed a composition as varied as that of the sun. As it is, the air which we breathe gives certain spectral lines. These are much increased in number

when the sun is low, and when therefore it is viewed through a thicker medium. In this case the blue and green rays are quickly absorbed, while the red pass without difficulty through the denser mass of air, thus giving the setting sun his blood-red color. It will now be readily understood how, by means of the spectroscope, the existence of atmosphere in the superior planets can be verified. What a world of conjecture is thus opened out to us! for the existence of atmosphere in the planets argues that there are seas, lakes, and rivers there subject to the same laws of evaporation as those upon our own earth. And if this is so, what kind of beings are they who inhabit these worlds? The moon shews no trace of atmosphere, so that we may assume that if there be living beings there, they must exist without air and without water. The lines given by the *moon* and *planets* being in number and position identical with those belonging to the solar spectrum, is a further proof, if any were needed, that *their light is borrowed from the sun*.

The varied colors of the fixed stars may be assumed to be due (from what we have already stated with regard to metallic combustion) to their chemical composition; and the spectroscope, by the distinctive lines which it registers, renders this still more certain. Their distance from us is so vast, so immeasurably beyond any conception of space that we can command, that the detection of their composition is indeed a triumph of scientific knowledge. It has been calculated that if a model of the universe were made in which our earth were depicted as the size of a pea, the earth itself would not be one-fifth large enough to contain that universe.

If we marvel at the extraordinary skill which has brought these distant spheres under command of an analytical instrument, we must wonder still more when we are told that the spectra of these bodies can be brought within range of the photographic camera. This has lately been done by the aid of the most complicated and delicate mechanism; the difficulty of keeping the image stationary on the sensitive collodion film during the apparent motion of the stars from east to west, having only just been surmounted. This power of photograph-

ing the spectrum is likely to lead to very great results, for the records thus obtained are absolutely correct, and far surpass in accuracy the efforts of the most skilful draughtsman. It must be understood that in all these researches the spectroscope is allied with the telescope, otherwise the small amount of light furnished by some of the bodies under examination would not be enough to yield any practical result.

The clusters of matter which are called nebulae, and which the most powerful telescopes have resolved into stars, are shewn by the prism to be nothing but patches of luminous gas, possibly the first beginnings of uncreated worlds. Comet-tails are of the same nature, a doubt existing as to whether their nuclei borrow their light from the sun or emit light of themselves. We may close a necessarily brief outline of this part of our subject by stating that it is possible that the spectroscope may some day supplant the barometer, more than one observer having stated that he has discovered by its aid signs of coming rain, when the latter instrument told a flattering tale of continued fine weather.

We have merely shewn hitherto how the spectroscope is capable of identifying a metal; but its powers are not limited to this; for by a careful measurement of the length of the absorption lines, a very exact estimate of the *quantity* present can be arrived at. This method of analysis is so delicate that in experiments carried on at the Royal Mint, a difference of one ten-thousandth part in an alloy has been recognised. Neither must it be supposed that the services of the spectroscope are confined to metals, for nearly all colored matter can also be subjected to its scrutiny. Even the most minute substances, when examined by the microscope in conjunction with the prism, shew a particular spectrum by which they can always be identified. Nor does the form of the substance present any difficulty in its examination, for a solution will shew the necessary absorption bands. Blood, for instance, can be discovered when in a most diluted form. To the physician the detection of the vital fluid in any of the secretions

is obviously a great help to the diagnosis of an obscure case. But in forensic medicine (where it might be assumed that this test would be of value in the detection of crime) the microscope can identify blood-stains in a more ready manner.

The simple glass prism as used by Newton, although it is the parent of the modern spectroscope, bears very little resemblance to its gifted successor. The complicated and costly instrument now used consists of a train of several prisms, through which the ray of light under examination can be passed by reflection more than once. By these means greater dispersion is gained; that is to say, the resulting spectrum is longer, and consequently far easier of examination. A detailed description of the instrument would be impossible without diagrams, but enough has been said to enable the reader to understand theoretically its construction and application.

It will be understood that we have but lightly touched upon a phase of science which is at present quite in its infancy. It is probable that many more remarkable discoveries will in course of time be due to the prism. Already, within the past twenty years, four new metals have by its aid been separated from the substances with which they were before confounded; and although they have not at present any commercial value, we may feel sure that they have been created for some good purpose not yet revealed to us. There are signs that the spectroscope will some day become a recognised adjunct to our educational appliances. It is even now included under the head of Chemistry in the examination of candidates for university honors, and there is no doubt that it will gradually have a more extended use. Many years hence, when generations of School-Boards have banished ignorance from the land, the spectroscope may become a common toy in the hands of children, enabling them to lip:

Twinkle, twinkle, little star;
We know exactly what you are.

Chambers's Journal.

PICTURES IN HOLLAND, ON AND OFF CANVAS.

BY LADY VERNEY.

THERE is a curious difference between the two parts of the "Low Countries"—the "nether lands" formed of the ooze and mud deposited by the three great rivers, the Rhine, the Meuse, and the Scheldt, before entering the North Sea, and defended by a fringe of sandbanks and "dunes," thrown up by the winds and the waves. Belgium is simply a flat, ugly, prosperous-looking, uninteresting country, not unlike the more commonplace parts of England; but the flatness of Holland has infinitely more character in it, so that after passing the wide and turbid Scheldt, with its forests of shipping, one feels as if in a new land. It is the difference between a merely plain person and an ugly face full of character.

We left Antwerp on a grey day, with occasional gleams of light, the spire of the cathedral seeming for a time to grow taller and taller, as the perspective of distance showed more clearly the true relation of its height to the churches and houses, the masts and chimneys, grouped round its central point—the delicate tracery of its lofty pinnacles, rising 400 feet above the little men who yet had ventured to build up that daring flight of masonry heavenward.

The dead flats, with trees and distant houses, and shifting islands of light on the bright green meadows, passed quickly by,—living illustrations of the Dutch pictures with which we all are familiar; the exquisite truth of which to nature strikes one at every turn, the land part of the scene forming a mere line in the whole subject, the sky and clouds, as at sea, monopolizing three-fourths of the composition, and requiring therefore infinitely more care and thought in their arrangement than with other landscapes.

Presently came a series of small pine woods, cut for fuel and the service of the rail before they could reach the age of any beauty; with wide tracts of sandy, heathery common, and sour boggy bits, where turf was being taken out, and waste corners where more scrubby trees were attempting to grow. Few cottages, no châteaux, hardly any inhabitants, were to be seen; it seemed as if we were

reaching the very end of the world. Then came the marshy flats, always at the mercy of a few inches' rise in the tidal rivers, and the intricate series of islands, which alter as the muddy channels of the three great rivers divide and change, the rushing waters eating away the low-lying lands they have themselves formed, and carrying them bodily into the sea, against whose inroads the very existence of Holland is a continual struggle of life and death.

Here, in this apparently remote corner of the earth, name after name was shouted, as the stations succeeded each other at short intervals, recalling some of the most stirring scenes that the world has ever known, and reminding one how in the sixteenth and seventeenth centuries this was the place where many of the greatest deeds in European history were enacted, and the most important negotiations were conducted.

Here was the centre of the great struggle for freedom, both religious and political, won hardly for Europe at the cost of such horrible sufferings to the inhabitants of these industrious, well-doing cities,—ingrained traders if ever any existed,—who yet gave up the prosperity so dear to them for the sake of what to some seem only mere abstract questions;—where women and children helped in fighting the good fight, both actively and passively, not only enduring to the end the dreadful privations of the sieges, and exhorting their mankind not to yield, but even themselves fighting on the ramparts. Here such heads of the people as William the Silent, Barneveldt, De Witt, Prince Maurice, and William III. revolved their great schemes of European policy, and moved the strings that moved the world.

After such a past, it seems strange how the current of political power has now, as it were, stranded Holland on her own mud-banks, and left her to her prosperous trade, the commercial activity which fills the ports of Rotterdam, Dort, and Amsterdam with shipping and goods, the interior development of her agriculture over miles of flat green pastures,

rich and fertile, tenanted with herds of fat cattle, and the furnishing of butter and cheese, salt herrings and other fish, to the nations—a useful, but not so heroic a vocation as of old.

This is not the age of small States; war has been revolutionized to the exclusive profit of great populations and areas. The gigantic power of such armaments as Napoleon was the first to bring into fashion would now crush small centres of light such as the Greek and Italian Republics, and the seventeen United Provinces, before they would have time to collect men and money enough to resist. Whether this advance of brute force can be called civilization may be a question. "God" certainly seems now to be "*du côté des gros bataillons*" in Napoleon's sense, but a better mode of adjusting our differences must surely some time be found than for one nation to hammer another into subjection at the greatest possible cost to itself of blood and treasure, as in the Franco-German war. The horror expressed at the Bulgarian atrocities (both real and feigned) shows an advance in public opinion. Every important place in the Low Countries suffered as great horrors again and again in the sixteenth and seventeenth centuries, while Europe looked calmly on. Let any one read again the sieges of Antwerp, Haarlem, and Leyden, and say whether even the fiendish cruelties exercised on the poor Bulgarian peasants were worse than the wholesale barbarities inflicted on the unoffending inhabitants of great civilized cities, and continued for years by Christian soldiers, led by "officers and gentlemen," representatives of the "Most Catholic King," and belonging to a State such as Spain then was, standing at the head of the European nations of the period. It proves at least that the ideal of what may be permitted, even in war, has greatly changed for the better.

It is sometimes said that individual influence is at an end in the world, that we now work only by committees, parliaments, associations, and unions—vestries, in short, big and little. In the days when Bismarck and Moltke are still alive, and Cavour for good, and "Napoleon the Little" for evil, are scarcely cold in their graves, this can only be considered partially true. Yet standing among the

trees of the "Plein" (Place) at the Hague, and looking at the statue of "The Taciturn" (as he is often written and spoken of "for shortness" in a sort of affectionate familiarity) as he stands bare-headed, in his long robe, trunk hose, and great ruff—sagacious, long-suffering, wary, *indomptable*, one cannot but feel that the whole of Holland might now slip into the sea with less effect upon the fate of Europe than had the death of that one great man under the hands of an obscure assassin. The whole country seems full of him—with his memory are connected all the most stirring incidents in that most stirring epoch of her history; he is the incarnation of the best spirit of Holland in her best days.

The period of development, the flowering times in art and literature of a nation, are even curiously incalculable. The most unheroic age of Louis Quatorze brought out the full bloom of the talent of France. Here, amid war, misery, famine, bloodshed, and torture, grew up the great days of Holland, producing these unlikely results. Among these sleepy canals, brooded over by the heavy still damp of the encroaching sea, the black stagnant waters, the raw greens of the grass and trees, arose the brilliant Dutch and Flemish art, one of the only two schools of color that have ever existed in the world, as far as we know it, Greek pictures having utterly perished.

The gorgeous acres of canvas covered by Rubens, the magnificent Rembrandts, the little jewels of color by Terburg, Wouwermans, Gerard Dow, Ostade, Mieris, and Both; the wondrous portraits where Van der Helst, Frank Hals, Mireveldt, and Vandyke represented their men and women, the landscapes at which Ruysdael and Hobbima, Cuyp, P. Potter, Berghem, labored so industriously (though with such apparently unpicturesque surroundings as straight canals, stiff trees, and square fields), all fill one with wonder at the quantity, as well as the quality, of their beautiful work. There is not a gallery in Europe, public or private, of any renown, which does not contain many specimens of each good Dutch master. England is peculiarly rich in such treasures, and here many of the best pictures of the school out of Holland are to be found. We may claim the merit, at least, of having

discovered their value at a time when it was lowest among their own countrymen, and perfect gems of art were bought for mere trifles, which would now be recovered, if possible, at almost any price. The city of Antwerp has just given £4,000 for a picture by Hobbima, not two feet square. Why has all this power passed away? why cannot the city cause a new picture to be painted equal to the old?

In literature they stood nearly as high. Erasmus was certainly the leading philosophical thinker of the Reformation. Grotius, the "miracle of Holland," the "rising light of the world," as he was termed; Descartes, though not born among them, yet who certainly must be ranked among their great men; Spinoza, "great among the greatest as a thinker," the "God-intoxicated man," as he was called by the Catholic Novalis,—who was anathematized by orthodox Jew and Christian alike, but whose reputation has survived the reprobation; and Boerhaave, "the physician of Europe," were a few typical names among them; while printing, whose delicate clearness and beauty has never been excelled, amounting indeed to an art, was carried on by the family of the Elzevirs, at Leyden and elsewhere. In etching, Rembrandt himself has no rival, in power and delicacy alike, and in the effects of color produced, though in mere black and white, by the magic of his light and shade. The etchings, however, which bear his signature are of very various merit, and the backgrounds, foregrounds, and draperies are now believed to have been often worked in by his many pupils. Ferdinand Bol, himself an excellent painter, is also supposed to have filled in sketches made by Rembrandt himself. As far as mere mechanical power goes, Hollar's touch seems to be hardly inferior to that of the great master; but the genius of invention behind it is lacking in his case, and the satins and furs, the ruffs and lace, so marvellously rendered, continue mere "furniture," without the wondrous application by which Rembrandt imparts to them such surpassing interest.

Presently we passed the low earth-works of Breda, which look so weak and insignificant that they would seem impossible to defend; but their "surrender" was deemed such an important tri-

umph that it was immortalized by Velasquez, in the great picture of the Madrid Gallery, so bristling with uplifted lances, that it is technically called "Las Lan- zas." To us a far more interesting incident is the surprise of the town in 1590, while in the possession of the Spaniards, by a devoted band of soldiers, headed by a captain of Prince Maurice's army. Seventy men hid themselves in the hold of a barge, under a load of turf, which was going into the town for the supply of the troops. The voyage was only of a few leagues, but the winter wind blew a gale down the river, bringing with it huge blocks of ice, and scooping the water out of the dangerous shallows, so that the vessel could not get on. From Monday till Saturday these brave men lay packed like herrings in their little vessel, suffering from hunger, thirst, and deadly cold. Only once did they venture on shore to refresh themselves. At length, on Saturday evening, they reached Breda, the last sluice was passed, the last boom shut behind them.

An officer of the guard came on board, talked to the two boatmen, and lounged into the little cabin, where he was only separated by a sliding door from the men; a single cough or sneeze would have betrayed them, when every one of these obscure heroes would have been butchered immediately. As they went up the canal the boat struck on some hidden obstacle and sprung a leak; they were soon sitting up to their knees in water, while pumping hardly kept the barge afloat. A party of Italian soldiers came to their help, and dragged the vessel close up to the guard-house of the castle. The winter had been long and cold, and there was a great dearth of fuel. An eager crowd came on board, and began carrying off the cargo much faster than was safe for the hidden men. The hardships they had endured and the thorough wetting had set the whole party coughing and sneezing; in particular the lieutenant, Held, unable to control his cough, drew his dagger, and implored his neighbor to stab him to the heart, lest the noise should betray them. The skipper and his brother, however, went on working the pumps with as much clatter as possible, shouting directions to each other so as to cover the sounds within. At last, declaring that it was now

dark, they with difficulty got rid of the customers. The servant of the captain of the guard lingered still, complaining of the turf, and saying his master never would be satisfied with it. "Oh," said the cool skipper, "the best part of the cargo is underneath, kept expressly for the captain; he will be sure to get enough to-morrow."

The governor, deceived by false rumors, had suddenly gone to Gertruydenberg, leaving his nephew in charge—a raw, incompetent lad. Just before midnight the men stole out; one half marched to the arsenal, the other to the guard-house. The captain of the watch sprang out and was struck dead at one blow, while the guard were shot through the doors and windows. The other band were equally successful; the young governor made a rally, but was driven back into a corner of the castle, while the rest of the garrison, belonging to Spinola's famous Sicilian legion, fled helter-skelter into the town, not even destroying the bridge behind them. A body of picked troops and Maurice himself soon arrived, the palisade was beaten down, and they entered by the same way as the fatal turf boat. Before sunrise the city and the fort had surrendered "to the States-General and his Excellency." The capture was not only important in itself, but was the beginning of a series of Dutch victories, the turn in the tide after the Spanish triumphs of previous years.

Next came Dort, with its bright little gardens, houses, churches, ships, canals, windmills, and river,—all seeming inextricably mixed,—and a savor of the Synod collected here to settle the Calvinistic, Lutheran, and Arminian disputes of Protestant countries, not very satisfactory in its results, as it settled nothing. The place was a favorite subject with Cuyp, and the numerous "Views," two of which were to be seen in the last Loan Collection, the "Landing of Prince Maurice at Dort" in the Bridgewater Gallery, with Mr. Holford's "View of Dort," are at least a much more beautiful consequence due to the existence of the town.

There is a curious romance about this picture; it was very long and narrow, and was cut in two by an unscrupulous

dealer, thus utterly ruining the composition and balance of color, particularly in the sky. The two halves remained apart for years and were called "Morning" and "Evening," in the strange ignorance of both buyers and sellers of what constituted early light. At length the true relation of the parts was discovered, they have been once again married, and shine in the full glow of their warm beauty on Mr. Holford's walls: one can hardly help feeling that they rejoice in their reunion. The luminous effect of the evening light on sky and river, hot and still, with the town and its windmills, and the summer morning effect of the "Landing," are equally admirable. The atmospheric effects in Holland are certainly very peculiar. When the landscape is not blotted out by the mists, the fog, and the rain, its extreme flatness (as at sea) allows long perspectives of light to be seen under the clouds down to the very low level of the horizon. This often produces wonderful beauty of light and shade, when the sun is shining on any point in the great sweeps of country generally there in sight. The chances of variety are also much greater with such an immense arch of sky, than when the lower circle is cut off all round by trees and undulations, more or less high, as is usually the case elsewhere. There is also a singular clearness in the air over great expanses of water or watery land, and of vivid color when the cloud-screens lift, which is infinitely attractive; while the reflected light from the plains of bright water gives a remarkable luminousness—which has certainly passed on to the canvas of the Dutch artists.

Further down the Maas comes Rotterdam, which is now the entrepôt for the trade between Java and Germany. It looks busy and full of life, with its forests of masts on the broad, muddy, rapid river, washing away a bit of land on one side, piling it up further on, on the ever-changing morasses formed where the Maas reaches the sea. Here first one sees that strange combination of dark red brick houses, trees, and canals, most picturesque, and strikingly unlike anything else in the world. Even Venice, to which it is so often compared, resembles it in the words of a description far more than in reality. The Dutch towns,

with their deep sombre tones of color, do not in the least remind one of their brilliant Italian cousin.

The Hague is certainly the pleasantest and most peaceful-looking capital existing—"umbrageous" is the only word expressive of it, such is the amount of trees in every direction. "Trim retired leisure" is the general impression of the place, where women have time to squirt water at the fronts of their houses, and where the railway station is so clean that one might almost eat off the bricks. Still there is a busier and dirtier side to the town, connected with the trade to the sea. We looked down canal after canal, with long perspectives of bridges, men punting heavy barges with long poles thrust into the muddy black water or against the brick sides, leaning over so far that, at sharp turnings of the canals, it seemed as if they must overtopple themselves and fall. The boats were full of green cabbages and yellow carrots, baskets, mats hung up in rows, peat in neat little square cakes, the best from Gueldreland. In many of them women and children were living in the small cabins, half under and half upon the deck, and were sitting about in picturesque heaps. Some of the canals are now filled up and turned into streets, but the waterways, with bright lights and chequered shadows from the avenues of trees thrown on the brick houses and the black-green water, are far more pleasant to look at. The stirring of the boats prevents the stagnant look which, in out-of-the-way, little-used corners, appears in a coating of green slime, and seems as if it ought to bring fever, but does not. Here is a very Dutch picture: two women harnessed to a boat by a long rope, pushing against the collar like beasts of burden; a bit of red color on a wherry under the distant bridge; then a green hull and a mass of black barge, and the blue of the men's shirts, punting among the trees with their long poles, carrying the color from a bright sky. Nature gets the blue required for her gamut often from above, and the reflections of the trunks and houses in the water, wherever it was still, doubled and inverted the lines with admirable effect.

Next a more open view out of our windows, where the canal (always a nec-

essary foreground here) is backed by the park. The trees, particularly the oaks, grow very straight, showing that there is no stony, gravelly obstacle to their tap roots in the easy soil; peat (of an inferior quality) is reached wherever a foundation is dug or a garden cultivated, even in the best quarters of the town. Endless barrows, with all sorts of produce, are passing by—grapes; blue, green, and orange *faience*; a red box with "Koffee, Thee," on it—the last as national a beverage here as in England; a boy in a blouse and *sabots*, with two great baskets slung to a yoke, and an enormous cauliflower in each; some women marketing, with queer skull caps of very thin beaten gold, hiding the hair completely, a costume from Zeeland; others with lace lappets, and small curly gold horns projecting four or five inches on the side of the head, heirlooms in a North Holland family, a white jacket, pink apron, and *sabots*, cold coloring; the peasants looking substantial in every sense; odd, old-fashioned country carts, with a curious horn jutting out in front; two wicked little boys, certainly not twelve years old, smoking; several more in wooden shoes and red stockings, flinging stones to bring down the horse-chestnuts, with an amount of diligence, patience, and skill, which would make them model boys if they do those lessons as earnestly for which they will certainly be too late this morning. No "guardians of order" interfering; apparently order takes care of itself in this well-conducted population. The schools are said to be remarkably good and well attended; the religious education is kept separate from the secular, the hot Protestant and Catholic feuds making any other arrangement impossible, if the children are to be taught together; and there seems to be no difficulty there at least in carrying out the details.

We drove to the "Maison du Bois," through a thick grove of tall trees, remnants of the ancient forest which once girt the whole territory of the Netherlands, another portion of which is still to be found near Haarlem, and which long enabled the savage inhabitants of the quicksands and thickets of Batavia to withstand even the Romans; while the tangled bushes into which the sand was

blown on the shore of the North Sea are believed to be the origin of the dunes. The trees grow so close as to spoil each other sadly, but if once the sharp sea winds are admitted the destruction is great. Tall beech trunks, here and there, thrust their heads high into the air, pine and elm, hornbeams and horse-chestnuts, crossed and mingled their branches, with a great variety of foliage. In the midst of the wood we came upon a dark green clear pool, looking very weird and strange, and one sees where Ruysdael got the black greens, the sombre, sunless shadows, of his pictures. The deep seclusion of the place is very striking,* though within a mile or two of the town; the road wound and twisted through the thick forest, closing in on every side and over our heads, when, without any preparation, we came suddenly on the old red brick palace with a high "perron" and steps in front, literally planted in the very heart of the mystery. Certainly this is the very place where the "*Belle au bois dormant*" must have lived, and probably these are the princes her descendants, only the Queen, one of the cleverest women in Europe, does not look as if much of the sleep had come down upon her. The house is a show place, full of Javanese and Japanese curiosities, and Mr. Motley's portrait figures there, hanging in a room full of the most precious of the monsters. He has certainly merited the rarest place in the kingdom, for his canonization of its heroes and his vivid pictures of the great struggles of its people.

A poetic little garden behind, full of roses, was framed with wreaths of Westeria as we looked out of a central hall, the cupola and walls of which are painted by scholars of Rubens in memory of the great deeds of some Prince of Orange, by order of his wife, who sits at the top and admires her own work in her husband's honor.

The gallery at the Hague is very small, but full of pictures of great interest: not by any means, however, those which are most talked about. The big Bull is a disappointment; we have been satiated with beast-painting, and the

hairs of his head and the droppings from his nose, wonderful as they are, are too realistic and prosaic to excite any great warmth of enthusiasm. The sleepy sheep, too, are so poorly painted that they seem as if not by Paul Potter's own hand. Rosa Bonheur's "*Horse Fair*" is a far higher kind of art.

Here, too, is a fine portrait of Prince Maurice, by Mireveldt, in armor, with a high narrow forehead and peaked beard. There is more even than his father's statesmanlike power in the face, but far less of the benignity. The features of the family of the Nassaus are well worth study. William the Silent and his three brothers had already laid down their lives for the sake of their country, and his son and nine more of the race were devoting their blood, their property, and every energy and talent they possessed to the service of the cause at the time this picture was painted. Few lands, indeed, owe more to one great family than Holland to the race of William.

The bevy of doctors surrounding a subject about to be dissected, foreshortened in a marvellous manner, is not so unpleasant as it sounds, and is a splendid effort of portrait-grouping, natural and life-like, and of light and shade, but it is not a picture on which one can like to dwell. The portraits of Rubens' first and second wives are full of color, life, and brilliant light; "But I don't know which I should like least for my own wife of those two coquettish ladies," said our companion. There is no good picture of William the Silent; probably he was far too busy with greater interests to remember to be painted; but though the omission seems to be in character with the man, it is not the less to be regretted. The statue on the Plein is not bad, but it is only a late production; by his side the little dog is immortalized which saved his life, when lying asleep in his tent, by barking so violently that it awakened the Prince, on one of the many occasions when his assassination was attempted by order of Philip II.

Two or three lovely little landscapes, full of air and sunshine and distance, with much sky, make one feel as if a hole in the wall were opened admitting the real view. One of these gives that mixture of ships and trees common in Holland, and another the distant sight

* There is a short prosaic way to the straight bare high road on the other side the palace, but this may be quite ignored.

of a town amidst formal trees and wide meadows, whose realization we soon came upon in Leyden itself, near a small branch of the Rhine, where a great church rising among the trees and red houses has a sort of simulated look of the hull of a ship reversed, very characteristic of its position.

Leyden is now the quietest and most stagnant of learned universities, but with a story to it of the siege by the Spaniards in 1573, than which nothing more moving has happened in the story of our race. The heroic manner in which the inhabitants held out long after any wholesome provisions had been consumed, how they ate horses and dogs, and cats and rats were luxuries; how they dug up the very weeds in the market-place; and even when pestilence broke out from the privations endured by the inhabitants, still the remainder held out; is not this written in Mr. Motley's great chronicle of their race?

At length, as the last chance of relieving the city, William the Silent resolved upon opening the great dykes to the sea, and flooding the country so as to drown out the Spaniards and send food to the besieged. The damage to the fields, standing crops, and villages, in July, was enormous; it was a measure only to be taken as a last resort, but the danger was imminent, and if Leyden fell the rest of the country must follow. The Estates consented to the risk: "Better a drowned land than a lost land," cried the patriots, and a large capital was subscribed to carry out the work of destruction, as if it had been a commercial enterprise, while the ladies gave their plate and jewellery towards it. The besieged had written to the Prince that everything was gone but the malt-cake, and that after four more days nothing but starvation would be left to them. William was lying at Rotterdam so ill with a violent fever, brought on by fatigue and anxiety, that his life was despaired of, but he caused letters to be sent off, which, without mentioning his illness, told them that the dykes were already pierced and that the water was beginning to rise. Great rejoicings took place within the wretched town, cannon were fired, and the Spaniards were surprised at the sounds of music; but Leyden was fifteen miles

from the sea dyke, and the flotilla of 200 vessels, with guns and 2,500 veterans on board, was only able to get as far as a second dyke, still five miles from Leyden. Within this lay a chain of sixty-two forts, occupying the land held by the Spaniards, who were four times the number of those coming to the rescue; a sanguinary and desperate action took place, but after breaking through these obstacles a third dyke still kept out the water. At length after a series of violent "amphibious skirmishes" this defence was carried and the dyke broken down; but again they were doomed to disappointment, the wind was east, and the water spreading over so large a surface was reduced to a mere film of nine inches, too shallow for the ships—which required from eighteen to twenty—to sail over, and the fleet remained motionless.

William had by this time somewhat recovered, and as soon as he was able to stand he came on board, when the mere sight of him revived the spirits of the forces. The besieged were now at their last gasp; they knew that the fleet had sailed, and guessed at its progress by the burning villages, but they knew also that the wind was contrary and that it could not advance to their help. Bread, malt-cake, and horseflesh had disappeared, even the leaves were stripped from the trees and eaten; mothers dropped down dead with dead children in their arms; a dreadful disorder like the plague carried off from 6,000 to 8,000 persons; yet still the people resolutely held out. At last a party of the most fainthearted surrounded the Burgomaster, Adrian van der Wirt, and demanded a surrender. "My life is at your disposal," said the heroic chief; "I can die but once, but I tell you I have made an oath to hold the city. It is a fate more horrible than famine to fall into the hands of the Spaniards. Take my body if it can be of any use to you, but expect no surrender while I am alive." The discontent was stayed, but still there seemed no hope of relief. "It were as easy to pluck the stars out of heaven as Leyden out of our hands," cried the Spaniards, jubilantly.

But the Lord sent a great wind, and it blew the waves furiously on the shore and across the ruined dykes, and the floods rose on the panic-stricken Span-

iards, a thousand of whom were drowned, and the flotilla of barges sailed in at midnight over the waves amidst the storm and darkness. A fierce naval battle was fought amongst the branches of the great orchards and the chimney stacks of half-submerged farm-houses; the enemy's vessels were soon sunk, and on swept the fleet; and when they approached some shallows, the Zeelanders dashed into the sea and by sheer strength shouldered every vessel through. Before they could reach the town, however, there still remained the great fortress of Lammen, swarming with soldiers and bristling with artillery, which could not be left behind, while the town might still be starved before it could be reduced. At dead of night, however, the panic-stricken Spaniards fled, and to the surprise of the patriots, in the morning all were gone; and the fleet rowed in through the canals, the quays lined with the famishing people to whom bread was thrown as they passed along amidst the tears of the population. As soon as the brave Admiral Borson stepped on shore, a solemn procession repaired to the great church, nearly every living soul within the walls joining, where after a prayer had been offered up the whole vast multitude joined in a great thanksgiving hymn. But the emotion was too deep; they soon broke down, and the multitude wept like children. And on the day following the relief, when the north-west wind had done its work, behold, it shifted suddenly to the east, and again a tempest arose and blew back the waves whence they came, so that the land had rest, and the people were able once more to rebuild their dykes and restore the drowned fields. The whole story reads like a chapter in the history of the "chosen people."

The Prince, though still scarcely convalescent, appeared in the town next day; and as one proof of the gratitude of Holland for the heroism of its people, the University was then founded at Leyden.

We had passed the spire of an insignificant village on the right—"Ryswyk, where the Treaty was signed between the Empire, England, France, Holland, and Spain in 1697," said the guide-book oracularly. What was the treaty about? I know that we knew once, but this does not much mend the matter. I feel as if

I were being examined in Russell's "Modern Europe" and my information found very shaky. "What was the treaty to settle?" I appeal to the "intelligent man," of whom one is perennially in search in any new place, but here even he is at fault. "Madame, je ne puis vous en rien dire, je n'ai pas été à Ryswyk." What a comfort it would be if the not having been at a place would honorably clear one at an examination! "What are the dates of the two sieges of Vienna?" "Sir, I cannot say; I have never been at Vienna." "What were the bases of the Treaty of Utrecht?" "Mr. Professor, how should I know? I have never visited Utrecht." And with a vague notion that it was "something wherein William III. figured" we swept on.

As Haarlem came in sight we passed over the fields wherein hyacinths, tulips, &c., blue, pink, yellow, and rainbow-colored, are grown by the million, and make the country look like a garden parterre in spring. The alluvial soil when the peat is peeled off is found particularly productive for "roots."

"Are there any manufactures at Haarlem?" we ask of our last edition of the "intelligent man" on our road to the great organ. "Yes, madame," replied he, "the manufacture of onions" (bulbs).

The siege of this town preceded that of Leyden by a few months, and quite equalled it in heroism, but the end was far more painful. Indeed, the courage of Leyden must be estimated by the fact that she knew of the dreadful fate of her sister-city and yet was not afraid.

The position of the town was a most important one, on a narrow neck of land between the Zuyder Zee and the ocean, scarcely five miles across; with its fall the province would have been cut in two, and the difficulty of resistance greatly increased. On the other side lay the Haarlem Lake, covering seventy square miles of surface, very shallow but liable to great storms. The city was one of the largest and most beautiful in the Netherlands, but also one of the weakest; the walls were low, in bad order, and required a large garrison, instead of which they could only muster three thousand men, while thirty thousand Spaniards were encamped around it. It was winter, which at first gave the Hol-

landers some advantage, by enabling them to fight on their native ice, but after the first "rapid, brilliant, and slippery skirmishes," when, Alva's troops being worsted, he declared that "such a thing was never heard of till to-day," he ordered seven thousand pairs of skates, on which his soldiers were immediately made to practise their evolutions, and the balance was restored against the Netherlands.

Again and again the indefatigable Orange sent in men, provisions, and ammunition, across the ice of the Haarlem Lake on sledges, often impelled by women and even children; every citizen became a soldier, and even the women took arms; and a corps of fighting women, all of respectable character, armed with swords, daggers, and muskets, did very efficient service in many fiercely-contested actions, within and without the walls.

The women in Holland have borne a distinguished part in the history of the country ever since the time when "the Gaul was assisted in a struggle by his blue-eyed wife, gnashing her teeth and brandishing her vast and snowy arms," as a soldier who fought under the Emperor Julian describes. But in spite of the desperate resistance of the burghers, "who fought as well as the best soldiers in the world could do," wrote Alva, the iron circle gradually closed in on the devoted city. They repelled three fierce assaults, defeating the enemy with great loss; they sallied forth with brilliant success, bringing in provisions and cannon, and killing almost a man apiece of the Spaniards; they built up the walls again as fast as the cannonade destroyed them, or when they were blown up by mines. Horrible barbarities were committed by the Spaniards on the few prisoners taken, but at length Alva introduced a fleet of war-boats on the lake, and, all the provisions in the town having been exhausted, the townfolk could do no more. As they could get no quarter they determined on cutting their way through the camp, with the women and children in the midst of a square. "It was a war such as had never been seen or heard of in any land on earth," wrote Alva to Philip II. The General, Don Frederic Alva, would willingly have abandoned the siege, but his father threatened to re-

nounce him if he did so. At last, fearing that the desperate citizens would set fire to the town, he offered ample forgiveness to the place, having all the time in his pocket a letter from Alva ordering him "not to let a soldier remain alive," and to execute a large number of the citizens. Haarlem yielded, and the people laid down their arms. As soon as they were no longer to be feared, the massacre began, and for many days five executioners and their attendants were kept at work till they were exhausted, when the remaining prisoners were tied back to back, two and two, and drowned in the lake. Two thousand three hundred persons were thus murdered in cold blood, including the Calvinist ministers and most of the principal inhabitants of the place. But the heroic resistance had not been in vain; it exhausted the strength of the besieging army to such a degree that "it was clear the Spanish empire could not sustain many such victories." Twelve thousand men had perished of their choicest troops, and the expenditure of treasure had been enormous, while in four years' time the city was once again lost to the Netherlands, whose constancy nothing could subdue.

What then was the Lake of Haarlem is now green with fields and young trees, and spotted with new red farmhouses, lying twelve feet below the level of the surrounding low country. Another large space is being reclaimed, laid bare by the line of the new great ship canal from Amsterdam to the sea, on the other side of the railroad.

The struggle between man and water in this marvellous country, only protected from being swallowed up in the high tides of every autumn by the line of low dunes and the artificial dykes, which are little more than wattles and sand bound together by the roots of the grass, amost haunts one. It is as if the voice of the sea was ever sounding in their ears, "Watch, work, strengthen your dykes, or you will all be drowned!" The details of the draining of the Haarlem Lake are extremely curious; a circular canal was first made round the district to be operated on, built up like the "levées" of the Po. Into this the water was (and is) pumped by four great steam-engines; it thence flows into a wider straight canal,

ending with great sluices on the sea. These at low tide are opened, and the water runs away; but if the wind be strong on shore, and the tide high, whole days may elapse before the gates can be opened, and the water must wait with what patience it may, while the over-gorged canals become full almost to overflowing.

Whole regiments of windmills are continually at work, keeping the balance even between the inland and outward waters, pumping up that of the low levels sufficiently high to enable it to find an exit into the sea. Beside this, they saw wood, grind flour, crush linseed, &c., &c., so that it is no wonder that they hold so honorable a place in Dutch art. It is found that they only raise the water profitably to a height of three or four feet, so that when ten or twelve feet have to be accomplished, three mills, in steps one above another, are employed, each to do its own share of the work. There are said to be nine thousand of these industrious slaves in Holland, and Amsterdam would seem to be the very centre of the battalion. There is one in each angle of the now useless fortifications, and they are sprinkled up and down all along the outer canal. The town is the crown of wonder of engineering skill, patient labor, and untiring struggles with water, weather, and wind, for the whole place is below the level of the sea. It has struck its roots deep below, like a great patient oak, and there is almost as much material sunk beneath the feet as is to be seen above the heads of the inhabitants. The ugly palace alone is built upon more than seventy thousand piles.

H— went to look at the building of an ordinary house in an ordinary street; he found that they came to water, or rather mud, as soon as they began to dig; in a space about thirty feet by twenty-five feet, eighteen piles, six inches square and thirty or forty feet long, were being driven by steam hammers, about two to the yard. Over the crossing beams and the flooring, Portland cement is generally laid, and the houses do not appear to be damp. But in the smaller streets, where the water is stirred by the long poles used to punt the barges, or by dredging, the smell was frightful, as there can be no outfall, and the drainage must

all be laboriously pumped up out of the canals before it can run into the sea. Yet there is little fever; perhaps the liberal allowance of clean rain, perpetually pouring down from heaven, keeps them going. Still it was highly immoral thus to sin against every law of hygiene and not to suffer, and H— held his nose in virtuous indignation as he passed along.

Nothing can be more picturesque than the infinite variety of queer gables and pediments, the ogees, scrolls, and dormer windows of the houses in the canal streets, each with a projection to which a crane can be attached, jutting out from the topmost twist of the mouldings, like a unicorn's horn out of his forehead. The lines of the windows, varying in each house from those of its neighbor, give them the charm of individuality, even in a street, which we so sorely miss in London. There is a *trottoir* and generally a row of trees by each canal, which introduces another element unlike Venice.

We could see from our windows the large ships that enter through a draw-bridge into the wider canals, with strange quaint varieties of stem and stern, the rigging and sails of different cuts and colors, many of their masts being unshipped to pass under the low side bridges. Here is a mass of hay, as large as a house, floating past on an almost invisible flat boat, and projecting far on each side of it; there comes an immense vegetable cargo; barrels of herrings, coals, cheese, butter, every kind of produce, were passing up and down, and a vast flotilla of wood, many hundred feet in length, which had come down the Rhine from the Black Forest or the Jura, with a little hut at each end, and piloted by a couple of families, who must have been months on their slow way. The opening of the great canal to the North Sea, which saves the long and dangerous passage round by the sandbanks of the Zuyder Zee, has greatly increased the commerce of the town, and it is said now to be rivalling or even cutting out that of Rotterdam. The harbor at the end of the canal just completed by English engineers, at the opening to the stormy ocean, is well worth studying. It cost millions of money, and both canal, sluices, and harbor are miracles of skill.

There was much talk of the scheme

for drying up part of the Zuyder Zee; a dyke twenty-five miles long is to be thrown across its narrowest part, when a county about the size of Surrey would be added to the kingdom. The preparations for this embankment under water are such as would only be dreamt of in Holland. A raft of brushwood is made, on which, as no natural stone is to be had, square masses made of sand and shingle, bound together by cement, are piled. These are towed out to their proper situation, when they are sunk, and another layer then brought and laid on the top of the first, the workmen in a diving-bell directing the operations.

A statue of Rembrandt adorns one of the numerous "places," but of Spinoza, as is not perhaps unnatural, no notice was taken in his native country till this year, when, two hundred years after his death, a statue of him was raised at the Hague. The account of an excommunication by the Synagogue, when he left the communion, is so singular that it may well be given as a "picture" of the Jews of Amsterdam about 1656. A large and agitated congregation collected, when it was known that the heretic refused to return into the fold, black wax candles were lighted, while the chanter chanted the dreadful words of the Interdict. He was declared "accursed by the same curse wherewith Elisha cursed those wanton and insolent children," &c., &c., "by all the curses, anathemas, interdictions, and excommunications fulminated from the time of Moses, our master, to the present day." "In the name of the Lord of Hosts, Jah, and in the name of the globes, wheels, mysterious beasts," &c., "let him be cursed in heaven and earth, by the very mouth of the Almighty God," "by the mouth of the Seraphim and Opanim, and ministering angels," &c. He was cursed "by the seven angels who preside over the seven days of the week, and by the mouth of the seven principalities." "If he was born in March, the direction of which is assigned to Uriel, let him be cursed by the mouth of Uriel," and so on through all the months. "Let him be cursed wherever he turn; . . . may he perish by a burning fever, by a consumption and leprosy; may oppression and anguish seize him; may he drink the cup of indignation, and curses

cover him as with a garment; . . . let his sins never be forgiven and let God blot him from under the heavens;" thus it runs on through four octavo pages of fierce and passionate denunciation, which do not, however, appear to have all been used on this occasion.

These terrific objurgations were accompanied from time to time by the thrilling sounds of a trumpet; at length the black candles were melted drop by drop into a huge tub of blood, and as the lights were suddenly extinguished, the shuddering spectators, with a cry of execration, shouted "Amen." The end of the candles in the blood is also said to have been omitted in Spinoza's case.

The pleasures of persecution must indeed be great, when it is remembered how many of the Jews present had themselves sought refuge from the terrors of the Inquisition in free Holland, or were descended from those who had escaped from Spain, Portugal, and other Catholic countries, and who used the liberty they had thus gained to denounce their brethren.

The Jews of Amsterdam are now a large and important body, with much of the trade of the town in their hands; particularly the special one of the cutting of diamonds, which is chiefly confined to this place.

"Water, water everywhere, and not a drop to drink," one cannot help saying like the Ancient Mariner. There is great difficulty in getting any good enough for the purpose, and strangers are warned against the ordinary supply as against poison; but some has been found of late, purified by the natural filter of the sands of the dunes. To a Dutchman it would seem impossible to have enough of it about his house, whether in town or country. With a canal in front and another on each side, he will add an artificial pond in his small garden, as a finish quite necessary for his comfort and pleasure; and the smoking houses and gazebos hang by preference over a canal.

The pictures are everywhere a continual feast, especially the portraits, which adorn the walls of buildings in what would be only second-rate country towns in another land. Such great masters as Van der Helst and Frank Hals are not sufficiently known and appreciated in

England. There was a wonderful picture of a lady in a ruff by Hals in the Loan Collection this year, and an Admiral Van Tromp in the Spencer gallery, still at South Kensington, which are perfectly marvellous in their vivid life; his later pictures are very inferior, however, and degenerate into coarseness. It is singular that no specimens of the works of so important an early painter as Antonio Moro are to be found in his own country; they must be sought for in England and Spain, where he chiefly worked. There is a Queen Mary among Lady Ashburton's pictures, sent by the Queen herself to Philip II. before her marriage, and a portrait of a lady in the National Gallery, about 1585, very remarkable in themselves, and for the history of the art in the Low Countries.

When portraits are by a master-hand there can be no class of painting more truly interesting. The real presentment of a great man by a great artist will be allowed by every one to be unsurpassable in value, as a combination of history, study of character, psychological and phrenological, as far as the form of the skull, well worth study. But even more than this, the likenesses of perfectly unknown and even commonplace men and women, immortalized by such men as Rembrandt, Van der Helst, Rubens, in the north, and Morone, Giorgione, and Titian in the south, are themselves of the deepest interest.

To see before you a real human being, whose "mind can be read behind his face," as Tennyson puts it, bearing the traces of the joys and sorrows, the feelings and sympathies, common to all our race, must always have a charm which no pictures of gods and goddesses however good, not even "ideal" apostles and martyrs, can ever possess. Of course there are exceptions to this, but only in the very highest class of imaginative works, such, for instance, as the great Descent from the Cross by Rubens at Antwerp.

It must always be an event in any one's life first to make acquaintance with that mighty picture, for, though the lines of the composition may be known by heart from prints and photographs, every person must then feel that he first obtains any real idea of the work. Indeed the light and shade of prints and photo-

graphs is often so utterly unlike that of the originals, that they are confusing more than helping, in their very meagre and inaccurate translation of a master. Color too here takes a new value, even with those who have loved it best, in looking at this its perhaps greatest achievement. It is not merely that the extreme glow and richness enhance infinitely the wonderful breadth of light and shade, and glorious harmony of lines, but here its element seems required to tell the story completely. It is itself a factor, necessary to the expression of the scene, not a mere enhancement of the rest—not only pleasure to the eye, but is felt to be part of the explanation of the meaning of the whole.

Where every quality is thus complete, there is a feeling of utter satisfaction in sitting opposite the picture, which is indescribable in its repose.

Once only in his life did Rubens reach that supreme height. The other pictures of his at Antwerp, which one is called on to admire, are miracles of facile skill in adventurous drawing, like the "Elevation of the Cross" in the opposite transept of the cathedral—triumphs of sleight of hand in the art of hues; but here only has he attained to the passion of inspiration in religious thought and feeling. It is like a great oratorio by Handel; the youngest and most ignorant can understand enough to enjoy, the most learned and experienced are lost in wonder and admiration at the treasures of his genius. It seems strange that he never should have attained to anything approaching the sublimity of this work. The gallery at Antwerp is full of pictures of his, enormous in size, and considered "very fine,"—that "rollicking" piece of color, "La Vierge au Perroquet," among others,—but one can hardly believe them to be by the same head and heart as the one great piece framed in its appropriate setting of the grand cathedral. There is an immense charm in the contrast of the two sides of the Predella with the centre: the almost pastoral "sweetness and light" of the young peasant mother, in her great shading Flemish hat, mounting the rude steps to greet Elizabeth, on one side, with a deep blue landscape seen below the arch; on the other side she is stretching out her arms a little anxiously for the babe who is held up in Simeon's

hands. "A sword shall pierce thine own side," he may be saying—a first tender note of sorrow, a hint of the coming woe.

The feeling of "contrary motion" (as it would be called in music), the contrast of these two with the sombre magnificence of the deep tragedy of the great central picture, must be seen to be understood at its full value, and for this engravings are scarcely any help. All the pictures are, plays upon the word "Cristofero," who was the patron saint of the Guild of Arquebusiers, from whom Rubens bought a piece of land for a house. They stipulated for a picture of St. Christopher in payment, and in his princely magnificence he presented them with five altogether, for the backs of the two flaps are painted also.

Color as a means of expression takes new character in the Netherlands; it is like a new language, or rather like a new mode of expression, by symphonies of harmonious hues.

In Rembrandt this is arrived at by contrast, almost by negations, and a brilliant piece of gorgeous harmony is produced almost without positive hues at all—the warm glow of a deep, dark background makes a blue or green appear so by juxtaposition; a dull red tells like a jewel on a neutral tint, or the flesh-tints, those most indescribable of hues, become living, in the great *chefs d'œuvre* of portrait-painting, the "Five Syndics" or the "Burgomaster Six" and his wife.

Color, however, seems to be an instinct more than a science; a half-naked Hindoo squatting among his piles of wool, dyeing them with herbs chosen by himself, and not knowing any reason why, will compose a marvel of harmony which all the kingdoms of Europe, with all their art-schools combined, cannot approach. Here and there a single painter arises, in an isolated place, some Sir Joshua, with his almost magic loveliness of delicate harmonies, some Gainsborough, old Crome, or Turner, but it is not carried on. In France the specimens are quite as rare. Meissonier is too artificial. E. Frere is very tender and charming, though a little dim in his key of hues. Color, however, is now as dead in the Low Countries as in the wretched daubs of modern Italy, and the painful cold greys of the German modern school.

The secret, the knack, the feeling, has died out with them of the old time, as may be seen almost more distinctly in the painted glass, the magnificent *walls* of color, as they may almost be called, thirty and forty feet high, which adorn quite insignificant churches in both Belgium and Holland. Comparing them with the much-cried-up Munich windows at Cologne, or the horrors perpetrated at Westminster Abbey and some other of our cathedrals, it seems almost inexplicable how, with the old models before the eyes of those who seek, the poverty, the rawness which sets one's teeth on edge in most modern glass could have been perpetrated.

At Gouda, a few miles from the Hague, are some gorgeous specimens equal to those given by Charles V. and his sisters to St. Gudule at Brussels, splendid in design as in richness of dark hues. All these form pictures in stained glass, which theoretically hardly appears to be its legitimate province of work, intended as it is to be seen against the light and therefore semi-transparent, but the effect is too grand to think of anything but such a result.

When we steamed away from Amsterdam the flat world was blotted out by rain and mist—nothing was to be seen but perspectives of straight lines of earth, trees, and water, each cut short by fog. Every field was not only like a sponge full of water, but looked so rotten with ooze that it seemed as if the cows must sink down through the bogs towards the centre of the earth. They were on the point of being taken under shelter for the winter, as it would be impossible for cattle to live in the open in such a climate; yet they thrive and give ample produce. Both men and beasts, indeed, look healthy and well-doing all over the country which feels like a raft, floating only just so as to keep its head above that water which it requires the almost superhuman efforts of its inhabitants to resist and make use of.

It is a grand thing to see the theatre where such great deeds, both moral and material, have been performed by man, but it must require the constitution of a Dutchman to be able to live there in bad weather.

[Since these pages were written, the Queen of the Netherlands, and the eloquent historian

of the great deeds of the country, whom she valued so highly, have passed away within a few days of each other. Mr. Motley has, alas! not lived to complete the story of the land which he has done so much to make known to the world. He was engaged on the Thirty Years' War at the time of his death.

The Queen was a very remarkable woman, full of noble objects and great interests. Most European languages were familiar to her, and the rare knowledge she possessed of the literature as well as the politics of England,

France, and her own Germany gave deep and varied interests to her thoughts and conversation. She was the intelligent centre for all that was worthy in Holland, where her sympathy and assistance were ready for every good work of whatever kind. She will indeed be missed. She was only fifty-nine, and her country and those she honored with her friendship might have hoped for many more years of so valuable a life.]

Contemporary Review.

A FEATHER.

"Drop me a feather out of the blue,
Bird flying up to the sun:"
Higher and higher the skylark flew,
But dropped he never a one.

"Only a feather I ask of thee
Fresh from the purer air:"
Upward the lark flew bold and free
To heaven, and vanished there.

Only the sound of a rapturous song
Tnrobbed in the tremulous light;
Only a voice could linger long
At such a wondrous height.

"Drop me a feather!" but while I cry,
Lo! like a vision fair,
The bird from the heart of the glowing sky
Sinks through the joyous air.

Downward sinking and singing alone,
But the song which was glad above
Takes ever a deeper and dearer tone,
For it trembles with earthly love.

And the feather I asked from the boundless heaven
Were a gift of little worth;
For oh! what a boon by the lark is given
When he brings all heaven to earth!

Blackwood's Magazine.

NOTES ON THE GEOGRAPHICAL DISTRIBUTION OF ANIMALS.

BY W. F. KIRBY, ASSISTANT NATURALIST, MUSEUM, ROYAL DUBLIN SOCIETY.

THE study of the geographical distribution of living and extinct organisms has recently become one of the most important branches of philosophical natural history, from the light which it throws both on the former condition of the earth, and on the greatest scientific question of the day, namely, that of the origin of species. The geographical distribution of animals

has lately received much attention, the most important contribution to the subject being a large work by Mr. A. R. Wallace; but in the present paper we propose to bring together such observations as may prove interesting, either from their importance or from their having been less fully discussed elsewhere.

Most naturalists are now agreed in

recognising six main regions of geographical distribution, as originally proposed by Dr. Sclater, viz. the Palæarctic, Ethiopian (or African), Indian (or Oriental), Australian, Neotropical (or tropical American), and Nearctic (or North American) regions. The Palæarctic region includes Europe, North Africa, the northern half of Arabia, and the whole of Western and Northern Asia, as far as the Indus and Himalayas, and a line drawn eastwards, running south of Tibet and Mongolia, and somewhat north of Formosa. The Indian region includes, besides South Asia, the large islands of Borneo, Java, Sumatra, and the Philippines; but the islands further to the east belong to the Australian region. The Neotropical region includes the West Indies, Central and South America, and the south of Mexico; the remaining regions require no further explanation.

Although these regions are generally recognised as natural, we must not consider the divisions between them as hard and fast lines, except that between the Indian and Australian regions, where the island of Celebes is almost the only debatable ground. Indeed, the fauna of much of the west coast of America, especially that of California and Chili, exhibits such marked affinities with that of the Palæarctic region, that these countries have been regarded by some writers rather as outlying districts of the latter than as biological portions of the continents to which they actually belong. It is also to be observed that this division of the world into six main regions is more applicable to some groups of animals and plants than to others. Various attempts have been made to subdivide the regions, but though some subdivisions, such as the Mediterranean subregion, are eminently natural, our knowledge of the natural productions of most of the regions is not yet sufficiently exact to allow of their being divided in such a manner as to gain the general assent of naturalists.

Owing to the much greater competition of rival forms in large continents, the larger and more highly developed forms always appear to have originated and been brought to relative perfection on the greatest continuous districts of land. But notwithstanding the frequent alterations of level during geological ages,

which have constantly united or separated various portions of the earth's surface, yet it appears that the largest masses of land, though differing in outline and continuity, have always occupied nearly the same places; that is, it is more probable that the contour of former continents has been changed by gradual increase or diminution, than that a whole continent should be submerged or elevated *de novo*. It also appears that the northern hemisphere, and more especially the Palæarctic region, has been the birth-place of most of the principal groups of animals, including those now confined to tropical Africa, or even to South America.* Nor need this surprise us, poor as is the present Palæarctic region, when we consider the great vicissitudes to which this region has been more especially exposed, and the many conditions unfavorable to animal life which it now presents. There is little doubt that the amazingly rich fauna possessed by Europe previous to the glacial epoch was then almost entirely swept out of it, a very large proportion of its original fauna and flora being either wholly exterminated or driven into distant regions whence, on the abatement of the cold, their descendants would return very slowly, if at all. Besides, it is urged by Mr. Belt that during the glacial period such vast masses of water were locked up in snow and ice that the average level of the sea would be at least 1,000 feet lower than at present, and probably far more. This would lay bare great tracts of land possessing a much warmer climate than any other portion of the globe at that time, where many tropical forms may have survived the glacial period, though some would doubtless have been subsequently exterminated by the great floods which Mr. Belt argues would have occurred towards its close, from the melting of the ice. This view receives considerable support from the numerous traditions of submerged countries in the Atlantic, and off the coasts of China, India, Ceylon, and East Africa.

Great changes have recently taken

* This is confirmed even by groups of which very few fossil remains exist. Mr. S. H. Scudder, in his recent work on fossil butterflies, only admits nine species, all European; but of these four are preponderatingly American in their affinities, three Oriental, one Mediterranean, and one African.

place in the inland seas of the Palearctic region. It was formerly bounded to the south by a great inland sea, resembling the Mediterranean, occupying the place of the Sahara; and a chain of inland lakes appears to have extended from Spain to the Black Sea. Wallace believes the Mediterranean to have then consisted of two great lakes, while North Africa was connected with Spain and Italy by extensive tracts of land now submerged. At this time, too, much of Northern Asia may have been depressed below the sea, or, at any rate, the great lakes, such as the Caspian, Aral, and Baikal, appear to have communicated with the Arctic Ocean. But there is still much obscurity relating to the geological history of Northern Asia; and until increased facilities of communication and changes in politics render China and Asiatic Russia more accessible to scientific men, it cannot be entirely cleared up. It is so difficult to account for the total disappearance of such forms as the mammoth from a country like Siberia, that some have suggested that they were destroyed by floods, to which indeed a great part of Central and Northern Asia was very probably subject, considering the much greater number and extent of the inland seas in former times, even if a large portion of the country was not actually covered by the Arctic Ocean. Much valuable geological information relating to Northern Asia in recent times must be still locked up in Chinese annals; and I have not yet met with any history by a competent geologist of the series of great volcanic disturbances, inclusive of earthquakes and floods, which devastated China during the first half of the fourteenth century, and which were felt with great severity at least as far as Austria and Greenland, and indirectly over the whole of the then known world, and there is reason to believe even in America. A history of these extraordinary phenomena, which are unparalleled in modern times for their extent and severity, if collected from the numerous available materials, and worked up by a competent hand, would be of the greatest scientific value.*

* The most accessible account of this period is perhaps that in Hecker's History of the Black Death, in his "Epidemics of the Middle Ages."

And here I may remark that I am convinced that great light would probably be thrown on the former state of the world in historic times by the study of Oriental literature by scientific men. There has been much discussion among Orientalists about the identification of the islands of Wák-wák, mentioned by Arab geographers, as well as in the "Arabian Nights." These are the islands, seven years' journey from Baghdád, where the trees bear fruit in the shape of female heads, suspended by the hair, which cry out, "Wák-wák" at sunrise and sunset. Then, to connect these islands more distinctly with birds, they are inhabited by jinneeys, who fly about in feather-dresses, which are sometimes stolen by some enterprising hero. Wallace describes the great bird of Paradise (*Paradisea apoda*) as being very abundant in the Aru Islands, and settling on the trees in flocks at sunrise, uttering a loud and shrill note audible at a great distance, which sounds like "wawk-wawk-wawk-wók-wók-wók." Anyone who will consult Lane's "Arabian Nights," vol. iii. chap. 25, note 32, and Wallace's account of the Great Bird of Paradise, in his "Malay Archipelago," chap. 38, will, I think, be convinced, like myself, of the identity of the Aru Islands with the islands of Wák-wák of the Arabian writers.* But even when animals are spoken of under their proper names, it will often be no easy matter to identify them in a translation; for I have generally found that the English, French, and German equivalents for the vernacular names of common animals or plants are rarely to be ascertained with any accuracy from the best existing dictionaries; and this difficulty would be greatly increased in the case of Oriental or ancient writings, in which animals, perhaps now extinct, would frequently be described in very hyperbolic language.

To return from this digression to Europe, we need not wonder that its present fauna is so much poorer than in post-glacial times, or even than a few centuries ago. The advance of cultivation, the felling of forests, and the draining of marshes have exterminated many

* I am not aware that the reputed occurrence of this bird in New Guinea has been confirmed; and the islands of Wák-wák are always spoken of in the plural.

species, even in our own day, while others have been destroyed as noxious creatures, as the wolf in Britain, and the lion in Germany* and Greece. Others were exterminated for food, as the great auk in the northern regions; and the urus and aurochs, both now almost extinct, the former only existing as *Bos scoticus*, and the other in Lithuania and the Caucasus, the last being the only locality where it is still actually wild. As, however these wild cattle are fierce and dangerous animals, they may have been exterminated partly for this reason. A very interesting volume could be written on the animals which have disappeared from Europe within historic times. When the ancient world was overrun by huge and destructive animals, it must have been difficult for men to make any progress in civilization; but when the glacial epoch had swept all before it, it was much easier for men to improve their condition. So far as we know, the ancient centres of civilization, such as Central Asia and Egypt, were less overrun with wild beasts than others.

The islands of Corsica and Sardinia, though barely alluded to by Wallace, are interesting from the number of peculiar species which they already contain, and for the still larger number of local forms, which, if isolated for a sufficient time, will ultimately become perfectly distinct species. Their fauna appears to have been derived from the mainland of Italy at a period when that country was already fully stocked with its present fauna, as they possess a large proportion of the Italian species. They have apparently been separated from the mainland for a much longer period than Britain from France; for, although Guénée calls Britain "le pays des variétés," well-marked species have not yet had time to develop themselves. Here, however, other considerations step in. The much hotter and finer climate of Corsica and Sardinia may have stimulated the more rapid differentiation of species. And although we are still ignorant of many of the laws which govern the range of species, yet it appears from the large proportion of species common on the French coast, and not extending to Britain, that Britain was

separated from France before France had fully acquired its present fauna and flora. The same reasoning will apply to Ireland, which is much poorer in species than Britain.

Some writers think that the Glacial Period has not wholly passed away, and that the earth has not yet recovered its normal temperature; and although it would require a long series of observations, extending over many years, if not centuries, to arrive at absolute certainty, yet there are some historical grounds for believing that the climate of all Europe was much more severe only 2,000 years ago than at present.* How far the clearing of forests, &c., may have influenced the climate we do not yet know, nor whether its gradual improvement is due to local or general causes. It is quite possible that the animals and plants now confined to Eastern, Southern, or Central Europe are still extending their range north and west, so far as they meet with no barriers to their further migrations.

In the case of the British Islands, there are other conditions besides breaks of geographical continuity which hinder the spread of some species. The unfavorable climate of the northern and western portions is probably one cause of the restricted range of many species, and their total absence from Scotland, Ireland, and in many cases, even from the north or west of England. Nothing strikes a naturalist, accustomed to the comparative abundance of insect life, even in the south of England, than its usual scantiness in Ireland, although the latter country probably possesses about two-thirds of our English species.

The Mediterranean subregion presents us with several interesting problems, in addition to some previously mentioned. During the time that Spain and Italy have been separated from North Africa, great changes have occurred in the insects of the opposite coasts, as well as in the larger animals which now inhabit those countries. Oberthur, in his recently published work on the Lepidoptera of Algeria, doubts if any Algerian species of *Zygæna* is identical with any European species. This, however, might perhaps be expected, for the genus *Zygæna* con-

* Which it is believed to have inhabited during the heroic age.

* Compare Mallet's "Northern Antiquities," pp. 242, 243.

sists of a great number of closely allied and highly variable species which have their head-quarters in the Mediterranean subregion; and while some groups of animals (as many Mollusca) may remain almost unchanged for entire geological periods, yet others, which, like the species of *Zygæna*, are specifically unstable, may become modified very rapidly. But, notwithstanding the large amount of specialty in the Algerian insect-fauna, it is essentially the same as the European, and the African element is exceedingly small. (There are some species of insects confined to South Spain and South Russia. These are probably very ancient forms, and may even be relics of the preglacial Palearctic insect-fauna.) The large mammals of Algeria are apparently nearly all of African origin, having crossed from the south after the Glacial Epoch, and subsequently to the disappearance of the Saharan sea, and to the final separation of Europe and Africa, although some identical species of wide range penetrated into, or perhaps returned to Europe through Asia Minor, such, for instance, as the lion.

The Ethiopian Region, or Africa, is at the present day chiefly remarkable for the great number of large mammalia which inhabit it. Many of these, though formerly abundant in Europe and India, have long disappeared from both countries; and Africa has now a highly specialized character of its own. The Malagasy subregion, including Madagascar and the adjacent islands, is peculiarly remarkable, and "appears to indicate a very ancient connection with the southern portion of Africa, before the apes, ungulates, and felines had entered it" (Wallace, "Geogr. Distr." i. p. 273). The insects of Madagascar, however, are closely allied to existing African species, and many of the most remarkable, formerly supposed to be peculiar to the island, have since been received from Natal or Zanzibar. There is also a considerable resemblance between the Mascarene fauna, and that of distant parts of the world, in which connection we may refer to the numerous traditions, previously mentioned, of recent subsidences in various parts of the Indian Ocean.

As a rule, competition is far more severe on continents than on islands; hence the great number of peculiar forms

which survive in islands, though long superseded on continents, and it appears that according to this principle, the insects of Madagascar have become less strongly modified than those of the African continent, and therefore represent to some extent a more ancient fauna. A remarkable case is afforded by two pairs of butterflies, inhabiting different parts of the world. One is *Papilis Merope*, a large black and white butterfly, with tails on the hind wings, found all over Tropical Africa, and varying considerably in different localities. The females are altogether unlike the male, being without a tail, and of a totally different shape and color, resembling butterflies of other groups, which are protected from birds, &c., by their nauseous odor. But *P. Merope* is represented in Madagascar by *P. Meriones*, the female of which only differs from the male in the presence of an additional black bar on the fore wings. The other example is that of *Argynnis Niphe*, a common Indian species, which is tawny, with black spots, and the female of which has the tips of the forewings broadly dusky, with a black bar across them, giving it a great resemblance to *Danaus Chrysippus*, a widely distributed insect, which is "mimicked" in the same way by the females of several other butterflies besides *A. Niphe*, even including one of the female varieties of *Papilio Merope*, already referred to. But the Australian representative of *A. Niphe* (*A. inconstans*), though differing so little from the male of *A. Niphe* that it was long considered to be no more than a slight local variety, has the sexes alike, the female having no white bar on the wings, although a small *Danaus* (*D. Petilia*), closely allied to *D. Chrysippus*, is also found in Australia.

Turning to the Oriental Region, we find that North India is much richer in species than the south. This is partly owing to the greater variety of elevation (just as the southern peninsula of Europe are poorer in species than the districts in which the central ranges lie*), but not entirely, since many North Indian species, not found in South India, reappear in the Malayan peninsula and

* Andalusia scarcely produces more species of butterflies than Sweden; Austria, Switzerland, or South France have nearly twice as many.

islands. The spread of Indian forms into Europe has been much checked by the position of the mountain ranges. Where these are more open, as along the coast of China and Japan, we find Indian forms extending much further north, and mingling with those which really belong to the Palearctic Region.

One of the most striking features in the Australian Region in recent times was the abundance of large wingless birds, now mostly extinct. Traditions, more or less authentic, relating to the great birds of the remote islands, are common in Oriental writers, who referred to them under the names of Rukh, Seemurgh, Anka, &c. The rukh was said by Middle Age writers to be found in Madagascar (doubtless referring to the *Epyornis* or its egg); but the Arabian writers always give the rukh the habits of an eagle or a vulture. The Arabs, we know, extended their voyages at least as far as Madagascar and the Aru Islands, and there is no improbability in their having also visited New Zealand, where I believe that remains of a gigantic bird of prey have recently been met with. The Arabs, of course, were well acquainted with the ostrich, now the largest living bird; hence, nothing but the great extinct birds could have given rise to the stories of the rukh. The Persians, less acquainted with these distant countries than the Arabs, made a mythological bird of the Seemurgh, but there is little incredible in the Arabian accounts of the rukh, except its gigantic size. The Greek or German Griffin may have had a similar origin.*

The Neotropical Region presents a great contrast to Africa, the other southern continent, for instead of a preponder-

ance of large mammalia, we have here an enormous abundance of some of the smaller forms of life; in some groups, as, for instance, butterflies, more than half of all the known species come from Tropical America.

The Nearctic Region, though somewhat poor in special forms as compared with the Palearctic, to which its affinities are so close that it could scarcely be separated as a distinct region, if we confined ourselves to isolated groups, yet possesses as many large mammalia as South America. The fauna of both North and South America was formerly much richer than at present; but the Glacial Period was as destructive in North America as in Europe. What caused the destruction of the large mammalia in South America is less certainly known; but Africa is now the only region which is sufficiently rich in the higher forms of life to lead us to suppose that it in any degree adequately represents the zoology of former times; and it appears to have been exposed in a less degree than other countries to the agencies which have destroyed animal life to so great an extent elsewhere.

In concluding this somewhat desultory article, we may remark that, contrary to the general idea, extreme heat seems to have a tendency to reduce the size of animals. The largest known animals are, or were, natives of cold countries; and most insects common to Europe or Japan, and India, are considerably smaller in the latter country. Even the tropical representatives of widely distributed genera are nearly always inferior in size and beauty to temperate forms.—*Popular Science Review*.

YOUNG MUSGRAVE.

BY MRS. OLIPHANT.

CHAPTER XIX.

A MIDNIGHT WALK.

WHEN young Lord Stanton left his own house with Wild Bampfylde there was

* The Rukh, or Roc, as in our old translation of the "Arabian Nights," is only alluded to, so far as we remember, in connection with its egg; the egg was probably that of *Epyornis*, and the bird manufactured to suit it.—ED.

a tingle of excitement in the young man's veins. Very few youths of his age are to be found so entirely homebred as Geoff. He had never been in the way of mischief, and he had no natural tendency to lead him thitherward, so that he had passed these first twenty years of his existence without an adventure, without anything occurring to him that might not have been known to all the world.

To leave your own house when other people are thinking of going to bed, for an expedition you know not where, under the guidance of you know not whom, is a sufficiently striking beginning to the path of mystery and adventure, and there was a touch of personal peril in it which gave Geoff a little tingle in his veins. His brother had been killed by some one with whom this wild fellow was closely connected; it was a secret of blood which the young man had set himself to solve one way or other; and this no doubt affected his imagination, and for a short time the consciousness of danger was strong in him, quickening his pulses and making his heart beat. This was increased by a sense of wrong-doing in so far as Geoff felt that he might be exposing the tranquil household he had left behind to agonies of apprehension about him, did he not return sufficiently early to escape being found out. Finally, on the top of this consciousness of conditional fault, came a feeling, perhaps the most strong of all, of the possible absurdity of his position. Romantic adventure, if it never ceases to be attractive to the young, is looked upon with different eyes at different periods, and the nineteenth century has agreed to make a joke of melodrama. Instead of being moved by a fine romantic situation, the modern youth laughs; and the idea of finding himself in such picturesque and dramatic circumstances strikes him as the most curious and laughable, if not ridiculous, idea. To recognize himself as setting out, like the hero of a novel or a play (of the old school), to search out a mystery—into the haunts of a law-defying and probably law-breaking class, under the guidance of a theatrical vagrant, tramp, or gipsy, to ask counsel of the weird old woman, bright-eyed and solemn, who held all the threads of the story in her hands, filled Geoff with mingled confusion and amusement. He had almost laughed to himself as he realised it, but with the laugh a flush came over his face—what would other people think? He thought he would be laughed at as romantic, jibed at as being able to believe that any real or authentic information could really be obtained in this ridiculous way. 'Lizabeth Bampfylde in the witness-box would no doubt be valuable, but the romances she might

tell in her own house, to a young man, evidently so credulous and of such a theatrical temperament—these two things were certainly different, and he would be thoroughly laughed at for his foolishness. This consciousness of something ridiculous in the whole business reassured him, however; and better feelings rose as he went on with a half-pleased, half-excited exhilaration and curiosity. The night was fine, warm, and genial, but dark; a few stars shone large and lambent in the veiled sky, but there was as yet no moon, so that all the light there was was concentrated above in the sky, and the landscape underneath was wrapped in darkness, a soft, cool, incense-breathing obscurity—for night is as full of odors as the morning. It is full of sounds, too, all the more mysterious for having no kind of connection with the visible; and no country is so full of sounds as the North country where the road will now thread the edge of a dark, unseen, heathery, thymy moor, and now cross, at a hundred links and folds, the course of some invisible stream, or some dozens of little runlets tinkling on their way to a bigger home of waters. Now dark hedgerows would close in the path; now it would open up and widen into that world of space, the odorless, dewy moorland; now lead through the little street, the bridge, the straggling outskirts of a village. Generally all was quiet in the hamlets, the houses closed, the inhabitants in bed; but sometimes there would be a sudden gleam of lightness into the night, a dazzle from an open door or unshuttered window. The first of these rural places was Stanton, the village close to the great House, where Geoff unconsciously stole closer into the shadow, afraid to be seen. Here it was the smithy that was still open, a dazzling centre of light in the gloom. The smith came forward to his door as they passed, roused by the steady tread of their footsteps, and looked curiously out upon them, his figure relieved against the red background of light. "What, Dick! is't you, lad?" he said, peeping out. "Got off again? that's right, that's right; and who's that along with you this fine night?" Bampfylde did not stop to reply, to Geoff's great relief. He went on with long, swinging steps, taking no notice. "If anybody asks you, say you

don't know," he said as he went on, throwing back a sort of challenge into the gloom. He did not talk to his companion. Sometimes he whistled low, but as clearly as a bird, imitating indeed the notes of the birds, the mournful cry of the lapwing, the grating call of the corn-crake; sometimes he would sing to himself low crooning songs. In this way they made rapid progress to the foot of the hills. Geoff had been glad of the silence at first; it served to deliver him from those uncomfortable thoughts which had filled his mind, the vagabond's carelessness reassuring and calming his excitement; for neither the uneasy sense of danger he had started with, nor the equally uneasy sense of the ludicrous which had possessed him were consistent with the presence of this easy, unexcited companion, who conducted himself as if he were alone, and would stop and listen to the whirr and flutter of wild creatures in the hedgerows or on the edge of the moor, as if he had forgotten Geoff's very presence. All became simple as they went on, the very continuance of the walk settling down and calming all the agitation of the outset. By and by, however, Geoff began to be impatient of the silence, and of the interest his companion showed in everything except himself. Could he be, perhaps, one of the "naturals" who are so common in the North, a little less imbecile than usual, but still incapable of continuous attention? Thus after his first half-alarmed, half-curious sense of the solemnity of the enterprise, Geoff came back to an everyday boyish impatience of its unusual features and a disposition to return to the lighter intercourse of ordinary life.

"How far have we to go now?" he asked. They had come to the end of the level, and were just about to ascend the lower slopes of hilly country which shut in the valley. The fells rising before them made the landscape still more dark and mysterious, and seemed to thrust themselves between the wayfarers' eyes and that light which seemed to retire more and more into the clear pale shining of the sky.

"Tired already?" said the man with a shrug of his shoulders. He had stopped to investigate a hollow under a great gorse bush, just below the level of the road, from which came rustlings and

scratchings indistinguishable. Bampfylde raised himself with a half laugh, and came back to Geoff's side. "These small creatures is never tired," he said; "they scuds about all day, and sleep that light at night that a breath wakes them; and yet they're but small, not so big as my hand; and knows their way, they does, wherever they've got to go."

"I allow they are cleverer than I am," said Geoff, good-humoredly, "but then they cannot speak to ask their way. Men have a little advantage. And even I am not so ignorant as you think. I have been on the fells in a mist, and knew my way—or guessed it. At all events, I got home again, and that is something."

"There will be no mist to-night," said Bampfylde, looking up at the sky.

"No; but it is dark enough for anything. Look here, I trust you, and you might trust me. You know why I am going."

"How do you trust me, my young lord?"

"Well," said Geoff; "supposing I am a match for you, one man against another, how can I tell you have not got comrades about? My brother lost his life—by some one connected with you. Did you know my brother?"

The suddenness of this question took his companion by surprise. He wavered for a moment, and fell backward with an involuntary movement of alarm.

"What's that for, lad, bringing up a dead man's name out here in the dark, and near midnight? Do you want to fley me? I never meddled with him. He would be safe in his bed this night, and married to his bonnie lady, and bairns in his house to heir his title, and take your lordship from you, if there had been nobody but me."

"I believe that," said Geoff, softened. "They say you never harmed man."

"No, nor beast—except varmint, or the like of a hare or so—when the old wife wanted a bit o' meat. Never man. For man's blood is precious," said the wild fellow with a shudder. "There's something in it that's not in a brute. If I were to kill you or you me in this lonesome place, police and that sort might never find it out; but all the same, the place would tell—there would be some-

thing there different; they say man's blood never rubs out."

Geoff felt a little thrill run through his own veins as he saw his companion shiver and tremble, but it was not fear. The words somehow established perfect confidence between himself and his guide; and he had all the simplicity of mind of a youth whose faith had never been tampered with, and who believed with the unshaken sincerity of childhood. "The stain on the mind never wears out," he said, thoughtfully. "I knew a boy once who had shot his brother without knowing it. How horrible it was! he never forgot it; and yet it was not his fault."

"Ah! I wish as I had been that lucky—to shoot my brother by accident," said Wild Bampfylde, with a long sigh, shaking into its place a pouch or game-bag which he wore across his shoulder. "It would have been the best thing for him," he added, in answer to Geoff's cry of protest; "then he wouldn't have lived—for worse—"

"Have you a brother so unfortunate?"

"Unfortunate! I don't know if that is what you call it. Yes, unfortunate. He never meant bad. I don't credit it."

"You are not speaking," said Geoff, in a very low voice, overpowered at once with curiosity and interest, "of John Musgrave?"

"The young Squire? No, I don't mean him; he's bad, and bad enough, but not so bad. You've got a deal to learn, my young lord. And what's your concern with all that old business? If another man's miserable, *that* don't take bit or sup from you—nor a night's rest, unless you let it. You've got everything as heart could desire. Why can't you be content, and let other folks be?"

"When we could help them, Bampfylde?" said Geoff. "Is that the way you would be done by? Left to languish abroad; left with a stain on your name; and no one to hold out a hand for you; nobody to try to get you righted; only thinking of their own comfort, and the bit and the sup and the night's rest?"

"You've never done without neither one nor t'other," came in a hoarse undertone from Bampfylde's lips. "It's fine talking; but it's little you know."

"No, I've never had the chance," said Geoff. "I can't tell what it's like, that's true; but if it ever comes my way——"

"Ah, ay! it's fine talking—it's fine talking!"

Geoff did not know how to reply. He went on impatiently, tossing aloft his young head, as a horse does, excited by his own words like the playing of a trumpet. They went on so up a stiff bit of ascent that taxed their strength and their breathing, and made conversation less practicable. The winding mountain road seemed to pierce into the very fastnesses of the hills, and the tall figure of the vagrant a step in advance of him appeared to Geoff like the shadow of some ghostly pioneer working his way into the darkness. No twinkle of a lamp, no outline of any inhabited place looming against the lighter risings of the manifold slopes, encouraged their progress. The hills, which would have made the very brightness of the morning dark, increased the gloom of the night. Only the tinkle of here and there a little stream, the sound of their own footsteps as they passed on, one in advance of the other, the small noises which came so distinct through the air—here a rustle, there a jar of movement, something stirring under a stone, something moving amid the heather, were to be heard. Bampfylde himself was stilled by these great shadows. His whistle dropped; and the low croon of song which he had raised from time to time did not take its place. He became almost inaudible, as he was almost invisible; only the sound of a measured step and a large confused outline seen at times against the uncertain openings and bits of darkling sky.

When they came abreast again, however, on a comparatively smooth level, after a stiff piece of climbing, he spoke, suddenly, "It's queer work going like this through the dark. Many a night I have done it with no company, and then a man's drawn out of himself watching the living things; one will stir at your foot, and one go whirr and strike across your very face, for they put more trust in you in the dark. You see they have the use of their eye-sight, and the like of you and me haven't. So they know their advantage. But put a man down beside another man, and a's changed. I

cannot understand the meaning of it. It puts things in your head, and it puts away the innocent creatures. Men's seldom innocent, but they're awful strange," said the vagrant, with a sigh.

"Do you think they are so strange? I am not sure that I do," said Geoff, bewildered a little. "They are just like other people—one is dull, one is clever; but except for that——"

"Clever! it's the creatures that are clever. Did you ever see a peewit make a fuss to get you off where her nest was? A woman wouldn't have sense to do that. She'd run and shriek, and get hold of her bairns; but the bird's clever. That's what I call clever. It's something stranger than that. When a man's beside you, all's different; there's him thinking and you thinking; and though you're close, and I can grip you"—here Bampfylde seized upon Geoff with a sudden, startling grasp, which alarmed the young man—"I can't tell no more than Adam where your mind is. Asking your pardon, my young lord, I didn't mean to startle you," he added, dropping his hold. "Now the creatures is all there; you know where you have 'em. Far the contrary with a man."

Geoff was not given to abstract thoughts, and this sudden entry into the regions of the undiscovered perplexed him. "You like company, then?" he said, doubtfully. He knew a great deal more than his companion did of almost everything that could be suggested, but not of this.

"Like company? it's confusing, very confusing. But the creatures is simple. You can watch their ways, and they're never double-minded. They're at one thing, one thing at a time. Now, a man, there's notions in his head, and you can never tell how they got there."

"I suppose," said young Geoff, perplexed yet reverential, "it is because men are immortal; not like the beasts that perish."

"Ay, ay—I suppose they perish," said Bampfylde. "What would they be like us for, and sicken, and pine? They get the good of it all the time; run wild as they like, and do mischief as they like, and never put in gaol for it. You think they're sleeping now? and so they are, and waking too—as still as the stones and as lively as the stars up yonder.

That's them; but us, if we're sleeping, it's for hours long, and dreams with it; one bit of you lying like a log, t'other bit of you off at the ends of the airth. So, if you're woke sudden, chances are you aren't there to be woke—and there's a business; but the creatures, they're always there."

"That is true," said Geoff, who was slightly overawed, and thought this very fine and poetical, finer than anything he had ever realised before. "But sometimes they are ill, I suppose, and suffer, too?"

"Then them that is merciful puts them out of their pain. The hardest-hearted ones will do that. A bird with a broken wing, or a beast with a broken leg, unless it be one of the gentlefolks' pets, that's half mankind, and has to suffer for it because his master's fond of him (and that's funny too)—the worst of folks will put them out of their pain. But a man—we canna' do it," cried the vagrant; "there's law again' it, and more than law. If it was nothing but law, little the likes of me would mind; but there's something written here," he said, putting his hand to his breast; "something as hinders you."

"I hope so, indeed," said Geoff, a little breathless, with a sense of horror; "you would not take away a life?"

"But the creatures, ay; they have the best of it. You point your gun at them, or you wring their necks, and it's all over. I'm fond of the creatures, creatures of all kinds. I'm fond of being out with them on a heathery moor like this all myself. They knows me, and there's no fear in them. In the morning early, when the air's all blue with the dawn, the stirring and the moving there is, and the scudding about, setting the house in order! A thing not the size of your hand will come out with two bright eyes, and cock its head and look up at you. A cat may look at a king; a bit of a moor chicken, or a rabbit the size o' my thumb, up and faces you, and 'who are you, my man?' That is what they looks like; but you never see them like that after it's full day."

"Then is night their happy time?" said Geoff, humoring his strange companion.

"Night, they're free. There's none about that wishes them harm; and though

I snare varmint, and sometimes take a hare or a bird, I'll not deny it, my young lord, though you were to clap me in prison again to-morrow—they're not afraid o' me; they know I'll not harm them. Even the varmint, if they didn't behave bad and hurt the rest, I'd never have the heart. When you go back, if you do go back——"

"I must go back," said Geoff, very gravely. "Why should not I? You don't think I could stay up here?"

"I was not thinking one thing or another. The like of you is contrary. I've little to do with men; but when you go, if you go, it might be early morning, the blue time, at the dawn. Then's the time to see; when there's all the business to be done afore the day, and after the night. Children is curious," said Bampfylde, with a softening of his voice, which felt in the darkness like a slowly dawning smile; "but creatures is more curious yet. I like to watch them. You'll see all the life that's in the moors if it's that time when you go."

"I suppose if there is anything to tell me I cannot go sooner," said Geoff. His tone was grave, and so was his face, though that was invisible. "Then it will be day before I get home, and they will all know—perhaps I was a fool."

"For coming?" said the man, turning round to peer into his face, though it was covered by the darkness; and then he gave a low laugh. "I could have told you that."

For a moment Geoff's blood ran colder; he felt a little thrill of dismay. Was this strange creature a "natural" as he had thought, or did what he said imply danger? But no more was said for a long time. Bampfylde sank back again all at once into the silence he had so suddenly broken, or rather into the low crooning of monotonous old songs with which he had beguiled the first part of the journey. There was a kind of slumberous power in them which half-interested, half-stupefied Geoff. They all went to one tune, a tune not like anything he knew—a kind of low chant, recalling several airs, that did not vary from verse to verse, but repeated itself, and so lulled the wayfarer that all active sensation seemed to go from him, and the monotonous, mechanical movement of his limbs seemed to beat time to the

croon of sound which accompanied the gradual march. There was something weird in it, something like "the woven paces and the waving hands" of the enchantress. Geoff felt his eyes grow heavy, and his head sinking on his breast, as the low, regular tramp and chant went on.

At length, all at once, the hills seemed to clear away from the sky, opening up on either hand; and straight before them, hanging low, like a signal of trouble, a late risen and waning moon that seemed thrust forward out into the air, and hanging from the sky, appeared in the luminous but mournful heaven in front of them. There is always something more or less baleful and troublous in this sudden apparition, so late and out of date, of a waning moon; the oil seems low in the lamp, the light ready to be extinguished, the flame quivering in the socket. Between them and the sky stood a long, low cottage, rambling and extensive, with a rough, gray, stone wall built round it, upon which the pale moonlight shone. Long before they reached it, as soon as their steps could be audible, the mingled baying and howling of a dog was heard, rising doleful and ominous in the silence; and from under the roof—which was half rough thatch, and half the coarse tiles used for laborers' cottages—a light strangely red against the radiance of the moon, flickered with a livid glare. A strange black silhouette of a house it was, with the low moonlight full upon it, showing here and there in a ghostly full white upon a bit of wall or roof, and the red light in the window: it made a mystic sort of conclusion to the journey. Bampfylde directed his steps towards it without a word. He knocked a stroke or two on the door, which seemed to echo over all the country, and up to the mountain tops in their great stillness. "We are at home, now," he said.

CHAPTER XX.

THE COTTAGE ON THE FELS.

THERE was a sound of movement within the house, but no light visible as they stood at the door. Then a window was cautiously opened, and a voice called out into the darkness, "Is that you, my

lad?" Geoff felt more and more the little thrill of alarm which was quite instinctive, and meant nothing except excited fancy; such precautions looked unlike the ordinary ease and freedom of a peasant's house. A minute after the door was opened, and 'Lizabeth Bampfylde made her appearance. She had her red handkerchief as usual tied over her white cap, and the flash of this piece of color and of the old woman's brilliant eyes, were the first things which warmed the gloom, the blackness and whiteness and mystic midnight atmosphere. She made an old-fashioned curtsy, with a certain dignity in it, when she saw Geoff, and her face, which had been somewhat eager in expression, paled and saddened instantly. The young man saw her arms come together with a gesture of pain, though the candle she held prevented the natural clasp of the hands. She was not glad to see him, though she had sent for him. This troubled Geoff, whom from his childhood most people had been pleased to see. "You've come, then, my young lord?" she said with a half-suppressed groan.

"Indeed, I thought you wanted me to come," he said, unreasonably annoyed by this absence of welcome; "you sent for me."

"You thought the lad would be daunted," said Wild Bampfylde, "and I told you he would not be daunted if he had any mettle in him. So now you're at the end of all your devices. Come in and welcome, my young lord. I'm glad of it, for one."

Saying this, the vagrant disappeared into the gloom of the interior, where his step was audible moving about, and was presently followed by the striking of a light which revealed, through an open door, the old-fashioned cottage kitchen, so far in advance of other moorland cottages of the same kind, that it had a little square entrance from the door, which did not open direct into the family living-room. This rude little ante-room had even a kind of rude decoration, dimly apparent by the light of 'Lizabeth's candle. A couple of old guns hung on one wall, another boasted a deer's head with fine antlers. Once upon a time it had evidently been prized and cared for. The open door of the room into which Bampfylde had gone showed the ordi-

nary cottage dresser with its gleaming plates (a decoration which in these days has mounted from the kitchen to the drawing-room), deal table, and old-fashioned settle, lighted dimly by a small lamp on the mantelpiece, and the smouldering red of the fire. 'Lizabeth closed the door slowly, and with trembling hands, which trembled still more when Geoff attempted to help her. "No, no; go in, go in, my young gentleman. Let me be. It's me to serve the like of you, not the like of you to open or shut my door for me. Ah, these are the ways that make you differ from common folk!" she said, as the young man stood back to let her pass. "My son leaves me to do whatever's to be done, and goes in before me, and calls me to serve him; but the like of you— It was that, and not his name or his money that took my Lily's heart."

Geoff followed her into the kitchen. It was low and large, with a small deep-set window at each corner, as is usual in such cottages. Before the fire was spread a large rug of home manufacture, made of scraps of colored cloth, arranged in an indistinct pattern upon a black background, and Bampfylde was occupying himself busily putting forward a large high easy-chair in front of the fire, and breaking the "gathered" coals to give at once heat and light. "Sit you down there," he said, thrusting Geoff into it almost with violence, "you're little used to midnight strolling. Me, it's meat and drink to me to be free and aneath the stars. Let her be, let her be. She's not like one of your ladies. Her own way, that's all the like of her can ever get to please them—and she's gotten that," he said, giving another vigorous poke to the fire. Up here among the fells the fire was pleasant, though it was the middle of August, and Geoff's young frame was sufficiently unused to such long trudges to make him glad of the rest. He sat down and looked round him with a grateful sense of the warmth and repose. A north-country cottage was no strange place to young Lord Stanton, and all the tremor of the adventure had passed from him at the sight of the light and the homely, kindly interior. No harm could possibly happen in so familiar an atmosphere, and in such a natural place. Meantime old 'Lizabeth, with a thrill of agitation in her

movements which was very apparent, busied herself in laying the table, putting down a clean tablecloth, and placing bread, cheese, and milk upon it. "I have wine, if you like wine better," she said. "He will get it, but he takes none himself, nothing, poor lad, nothing. He's a good son and a good lad—many a time I've thanked God that he's left me such a lad to be the comfort of my old age."

Wild Bampfylde gave a laugh which was harsh and broken. "You were not always so thankful," he said, producing out of some unseen corner a black bottle; "but the milk is better for you, my young lord, than the wine."

"Hush, lad; milk is little to the like of him; but *that's* good, for I have it here for—a sick person. Take something, take something, young gentleman. You can trust them that have broken bread in your presence, and sat at your table. Well, if you will have the milk, though it costs but little, it's good too; I would not give my brown cow for ne'er a one in the dales; and eat a bit of the wheaten bread, its baker's bread, like what you eat at your own grand house. I would not be so mean as to set you down, a gentleman like you, to what's good and good enough for us. The griddle-cake! no, but you'll not eat that, my young lord, not that; it's o'er homely for the like of you—"

"I am not hungry," said Geoff, "and I came here, you know, not to eat and drink, but to hear something you had to tell me, Mrs. Bampfylde."

"My name is 'Lizabeth—nobody says mistress to me."

"Well; but you have something to tell me. I left home without any explanation, and I wish to get back soon, that they—that my mother," said Geoff, half-ashamed, yet too proud to omit the apparently (he thought) childish excuse, since it was true, "may not be uneasy."

"Your mother? forgive me that did not mind your mother! Oh, you're a good lad; you're worthy a woman's trust that thinks of your mother, and dares to say it! Ay, ay—there's plenty to tell; if I can make up my mind to it—if I can make up my mind!"

"Was not your mind made up then," said Geoff with some impatience, "when

in this way, in the night, you sent for me?"

"Oh lad!" cried 'Lizabeth, wringing her hands. "How was I to know you would come, the like of you to the like of me? I put it on Providence that has been often contrary—oh, ay, contrary, to mine and me. I shouldn't have tempted God. I said to myself if he comes it will be the hand of Heaven. But who was to think you would come? You a lord, and a fine young gentleman, and me a poor auld woman, older than your grandmother. I thought my heart would have sunk to my shoes when I saw he had come after a'!"

"I told you he would come," said Bampfylde, who stood leaning against the mantelpiece. He had taken his bread and cheese from the table, and was eating it where he stood.

"Of course I would come," said Geoff. "I could not suppose you would send for me for nothing. I knew it must be something important. Tell me now, for here I am."

'Lizabeth sat down, dropping into a wooden armchair at the end of the table with a kind of despair, and throwing her apron over her head, fell a crying feebly. "What am I to do? what am I to do?" she said, sobbing. "I have tempted Providence—Oh, but I forgot what was written, 'Thou shalt not tempt the Lord thy God.'"

For a minute or two neither of the men spoke, and the sounds of her distress were all that was audible. Once or twice, indeed, Geoff thought he heard a faint sound, like the echo of some low wail or moan come through the silence. Not the moan itself but an echo, a ghost of it. But his companions took no notice of this, and he thought he must be mistaken. Everything besides was still. The fire by this time had burned up, and now and then broke into a little flutter of flame; the clock went on ticking with that measured steady movement which "beats out the little lives of men;" and the broken sobs grew lower. An impatience of the stillness began to take possession of Geoff, but what was he to say? He restrained himself with an effort.

"You should make a clean breast," said Bampfylde, munching his bread and

cheese as he spoke, with his eyes fixed on the fire, not looking at his mother. "Long since it would have been well to do it and an ease to your mind. I would make a clean breast now."

"Oh lad, a clean breast, a clean breast!" she said rocking herself. "If it was only me it concerned—if it was only me!"

"If it was only you what would it matter?" said the vagrant, with a philosophy which sounded less harsh to the person addressed than to him who looked on. "You—you're old, and you'll die, and there would be an end of it; but them that suffer most have years and years before them, and if you die before you do justice——"

"Then you can tell, that have aye wanted to tell!" she cried with a hot outburst of indignation mingled with tears. Then she resumed that monotonous movement, rocking herself again and again, and calmed herself down. It is not so intolerable to a peasant to be told of his or her approaching end as it is to others. She was used to plain speech, and was it not reasonable what he said? "It's all true, quite true. I'm old and I cannot bide here for ever to watch him and think of him—and I might make a friend, the Lord grant it, and find one to stand by him——"

"You mean another, a second one," said her son. He stood through all this side dialogue munching his bread and cheese without once glancing at her even, his shoulders high against the mantelpiece, his eyes cast down.

After a moment's interval 'Lizabeth rose. She came forward moving feebly in her agitation to where Geoff sat. "My young lord," she said, "my young gentleman, if I tell you *that* that I would rather die than tell—that that breaks my heart: you'll mind that I am doing it to make amends to the dead and to the living—and—you'll swear to me first to keep it secret? You'll swear your Bible oath? without that, not another word."

"Swear!" said Geoff, in alarm.

"Just swear—you can do it as well, they tell me, in one place as another, in a private house or a justice court. I hope we have Bibles here—Bibles enough if we but make a right use of them," said the old woman, perplexed, mingling the formulas of common life with the neces-

sities of an extraordinary and unrealised emergency. "Here is a Testament, that is what is given in the very court itself. You'll lay your hand upon it, and you'll kiss the book and swear. Where are you going to, young man?"

Geoff rose and pushed away the book she had placed before him. He was half indignant, half-disappointed. "Swear!" he said; "do you know what I want this information for? Is it to lock it up in my mind, as you seem to have done? I want it for use. I want it to help a man who has been cruelly treated between you. I have no right to stand up for him," said Geoff, his nostrils expanding, his cheeks flushing, "but I feel for him—and do you think I will consent to put my last chance away, and hear your story for no good? No, indeed; if I am not to make use of it I will go back again—I don't want to know."

The old woman, and it may be added her son also, stood and gazed upon the glowing eager countenance of the young man with a mingling of feelings which it would be impossible to describe. Admiration, surprise, and almost incredulity were in them. He had not opposed them hitherto, and it was almost impossible to believe that he would have the courage to oppose them so decidedly; but as he stood confronting them, young, simple, ingenuous, reasonable, they were both convinced of their error. Geoff would yield no more than the hill behind. His very simplicity and easiness made him invulnerable. Wild Bampfylde burst into that sudden broken laugh which is with some the only evidence of emotion. He came forward hastily and patted Geoff's shoulder, "That's right, my lad, that's right," he cried.

"You will not," said old 'Lizabeth; "not swear?—and not hear me?—oh but you're bold—oh, but you've a stout heart to say that to me in my ain house! Then the Lord's delivered me, and I'll say nothing," she said with a sudden cry of delight.

Her son came up and took her by the arm. "Look here," he said, "it was me that brought him. I did not approve, but I did your bidding, as I've always done your bidding; but I've changed my mind if you've changed yours. *I'm taking an interest in it now.* Make no

more fuss but tell him; for, remember, I know everything as well as you do, and if you will not I will. We have come too far to go back now. Tell him; or I will take him where he can see with his own eyes."

"See? what will he see?" cried 'Lizabeth, with a flush of angry color. "Do you threaten me, lad? He'll see a poor afflicted creature; but that will tell him nothing."

"Mother! are you aye the same? Still *him*, always him, whatever happens. What has there been that has not yielded to him? the rest of us, your children as well, and justice and honor and right and your own comfort, and the young Squire's life. Oh, it's been a bonnie business from first to last! And if you will not tell now, then there is no hope, that I can see; and I will do it myself. I am not threatening; but what must be, must be. Mother, I'll have to do it myself."

When he first addressed her as mother, 'Lizabeth had started with a little cry. What might be the reason that made this mode of expression unusual it was impossible to say; but it affected the old woman as nothing had yet done. She looked up at him with a wondering wistful inquiry in her face, as if to ask in what meaning he used the word—kindly or unkindly, taunting or loving? When he repeated the name she started up as if the sound stung her, and stood for a moment like one driven half out of herself by force of pressure. She looked wildly round her as if looking for some escape, then suddenly seized the lighted candle, which still burned on the table. "Then if it must be, let it be," she said. "Oh, lad! it's years and years since I've heard that name! you that would not, and him that could not, and her that was far away. Was there ever a mother as sore punished?" But it would seem that this expression of feeling exhausted the more generous impulse, for she set down the light on the table again, and dropping into her seat, threw her apron over her head. "No, I canna do it; I canna do it. Let him die in quiet. It canna be long."

The vagrant watched her with a keen scrutiny quite unlike his usual careless ways. "It's not them as are a burden on the earth that dies," he said. "You've said that long—let him die in peace; let

him die in peace. Am I wishing him harm? There's ne'er a one will hurt *him*. He's safe enough. Whoever suffers, it will not be him."

"Oh, lad, lad!" cried the mother, uncovering her face to look at him. At 'Lizabeth's age there are no floods of tears possible. Her eyes were drawn together and full of moisture—that was all. She looked at him with a passion of reproach and pain. "Did you say suffer? What's a' the troubles that have been into this house to his affliction? My son, my son, my miserable lad! You that can come and go as ye like, that have a mind free, that have your light heart—oh ay, you have a light heart, or how could you waste your days and your nights among beasts and wild things? How can the like of you judge the like of him?"

During this long discussion, to which he had no sort of clue, Geoff stood looking from one to another in a state of perplexity impossible to describe. It could not be John Musgrave they were talking of! Who could it be? Some one who was "afflicted," yet who had been exempt from burdens which had fallen in his stead upon others. Young Lord Stanton, who had come here eager to hear all the story in which he was so much interested, anxious to discover everything, stood, his eyes growing larger, his lips dropping apart in sheer wonder, listening; and feeling all the time that these two peasants spoke a different language from himself, and one to which he had no clue. Just then, however, in the dead silence after 'Lizabeth had spoken, the faint sound like a muffled cry which he had heard before, broke in more loudly. It made Geoff start, who could not guess what it meant, and it roused his companions effectually, who did know. 'Lizabeth wrung her hands; she raised her head in an agony of listening. "He has got one of his ill turns," she said. 'Bampfylde, too, abandoned his careless attitude by the mantelpiece, and stood up watchful, startled into readiness and preparation as for some emergency. But the cry was not repeated and gradually the tension relaxed again. "It would be but an ill dream," said 'Lizabeth, pressing a handkerchief to her wet eyes.

Geoff did not know what to do. He

was in the midst of some family mystery, which might or might not relate to the other mystery which it was his object to clear up; and this intense atmosphere of anxiety awoke the young man's ready sympathies. All his feelings had changed since he came into the cottage. He who had come a stranger, ready to extract what they could tell by any means, harsh or kind, and who did not know what harshness he might encounter or what danger he might himself run, had passed over entirely to their side. He was as safe as in his own house; he was as deeply interested as he would have been in a personal trouble. His voice faltered as he spoke. "I don't know what it is that distresses you," he said; "I don't want to pry into your trouble; but if I can help you you know I will, and I will betray none of your secrets that you trust me with. I will say nothing more than is necessary to clear Musgrave—if Musgrave can be cleared."

"Musgrave! Musgrave!" cried old 'Lizabeth, impatiently; "it's him you all think of, not my boy. And what has he lost, when all's done? He got his way, and he got my Lily; never since then have I set eyes on her, and never will. I paid him the price of my Lily for what he did; and was that nothing? Musgrave! Speak no more o' Musgrave to me!"

"Oh, mother," said her son, with kindred impatience, as he walked towards her and seized her arm in sudden passion; "oh, 'Lizabeth Bampfylde! You do more than murder men, for you kill the pity in them! What's all you have done compared to what he has done? and me—am I nothing? Two—three of us! Lily, too, you've sacrificed Lily! And is it all to go on to another generation, and the wrong to last? I think you have a heart of stone—a heart of stone to them and to me!"

At this moment there was another louder cry, and mother and son started together with one impulse, forgetting their struggle. 'Lizabeth took up the candle from the table, and Bampfylde hastily went to a cupboard in the corner, from which he took out something. He made an imperative sign to Geoff to follow, as he hurried after his mother. They went through a narrow winding passage lighted only by the flickering of

the candle which 'Lizabeth carried, and by what looked like a mass of something white, but was in reality the moonlight streaming in through a small window. At the end of the passage was a steep stair, almost like a ladder. Already Geoff, hurrying after the mother and son, was prepared by the cries for what the revelation was likely to be; and he was scarcely surprised when, after careful reconnoitring by an opening in the door, defended by iron bars, they both entered hastily, though with precaution, leaving him outside. Geoff heard the struggle that ensued, the wild cries of the madman, the aggravation of frenzy which followed, when it was evident they had secured him. Neither mother nor son spoke, but went about their work with the precision of long use. Geoff had not the heart to look in through the opening which Bampfylde had left free. Why should he spy upon them? He could not tell what connection this prison chamber had with the story of John Musgrave, but there could be little doubt of the secret here inclosed. He did not know how long he waited outside, his young frame all thrilling with excitement and painful sympathy. How could he help them? was what the young man thought. It was against the law he knew to keep a lunatic thus in a private house, but Geoff thought only of the family, the mysterious burden upon their lives, the long misery of the sufferer. He was overawed, as youth naturally is, by contact with misery so hopeless and so terrible. After a long time Bampfylde came out, his dress torn and disordered, and great drops of moisture hanging on his forehead. "Have you seen him?" he asked in a whisper. He did not understand Geoff's hesitation and delicacy, but with a certain impatience pointed him to the opening in the door, which was so high up that Geoff had to ascend two rough wooden steps placed there for the purpose, to look through. The room within was higher than could have been supposed from the height of the cottage; it was not ceiled, but showed the construction of the roof, and in a rude way it was padded here and there, evidently to prevent the inmate doing himself a mischief. The madman lay upon a mattress on the floor, so confined now that he could only lie there and pant and

cry; his mother sat by him motionless. Though his face was wild and distorted, and his eyes gleaming furiously out of its paleness, this unhappy creature had the same handsome features which distinguished the family. Young Geoff could scarcely restrain a shiver, not of fear, but of nervous excitement, as he looked at this miserable sight. Old 'Lizabeth sat confronting him, unconscious of the hurried look which was all Geoff could give. She was clasping her knees with her hands in one of those forced and rigid attitudes almost painful, which seem to give a kind of ease to pain—and sat with her head raised, and her strained eyes pitifully vacant, in that pause of half-unconsciousness in which all the senses are keen, yet the mind stilled with very excitement. "I cannot spy upon them," said Geoff, in a whisper. "Is it safe to leave her there?"

"Quite safe; and at his maddest he never harmed her," said Bampfylde, leading the way down stairs. "That's my brother," he said, with bitterness, when they had reached the living room again; "my gentleman brother! him that was to be our honor and glory. You see what it's come to; but nothing will win her heart from him. If we should all perish, what of that? 'Lizabeth Bampfylde will aye have saved her son from shame. But come, come, sit down and eat a bit, my young lord. At your age the like of all this is bad for you."

"For me—what does it matter about me?" cried Geoff; "you have borne it for years."

"You may say that: for years—and would for years more, if she had her way; but a man must eat and drink, if his heart be sore. Take a morsel of something and a drink to give you strength to go home."

"I am very, very sorry for you," said Geoff, "but—you will think it heartless to say so—I have learned nothing. There is some mystery, but I knew as much as that before."

Bampfylde was moving about in the background searching for something. He reappeared as Geoff spoke with a bottle in his hand, and poured out for him a glass of dark-colored wine. It was port, the wine most trusted in such

humble houses. "Take this," he said; "take it, it's good, it will keep up your strength; and bide a moment till she comes. She will tell you herself—or I will tell you; now you've seen all the mysteries of this house, she will have to yield; she will have to yield at the last."

Geoff obeyed, being indeed very much exhausted and shaken by all that had happened. He swallowed the sweet, strong decoction of unknown elements, which Bampfylde called port wine, and believed in as a panacea, and tried to eat a morsel of the oat-cake. They heard the distant moans gradually die out, as the blueness of dawn stole in at the window. Bampfylde, whose tongue seemed to be loosed by this climax of excitement, began to talk; he told Geoff about the long watch of years which they had kept, how his mother and he relieved each other, how they had hoped the patient was growing calmer, how he had mended and calmed down, sometimes for long intervals, but then grown worse again; and the means they had used to restrain him, and all the details of his state. When the ice was thus broken, it seemed a relief to talk of it. "He was to make all our fortunes," Bampfylde said; "he was a gentleman—and he was a great scholar. All her pride was in him; and this is what it's come to now."

They had fallen into silence when 'Lizabeth came in. Their excitement had decreased, thanks to the conversation and the natural relief which comes after a crisis, but hers was still at its full height. She came in solemnly, and sat down amongst them, the blue light from the window making a paleness about her as she placed herself in front of it; the lamp was still burning on the mantelshelf, and the fire kept up a ruddy variety of light. She seated herself in the big wooden arm-chair with a solemn countenance and fixed her eyes upon Geoff, who, moved beyond measure by pity and reverence, did not know what to think.

"He will have told you," she said. "I would have died sooner, my young lord; and soon I'll die—but, my boy, first I pray God. Ay, you've seen him now. That was him that was my pride, that was the hope I had in my life; that was him that killed young Lord Stanton

and made John Musgrave an exile and a wanderer. Ay—you know it all now."

CHAPTER XXI.

AN EARLY MEETING.

GEOFF left the cottage when the sun had just risen. He was half-giddy, half-stunned by the strange new light, unexpected up to the last moment, which had been thrown upon the whole question which he had undertaken to solve. He was giddy too with fatigue, the night's watch, the long walk, the want of sleep. Besides all these confusing influences there is something in the atmosphere of the very early morning, the active stillness, the absence of human life, the pre-occupation of Nature with a hundred small (as it were) domestic cares, such as she never exhibits to the eye of man, that moves the mind of an unaccustomed observer to a kind of rapture, bewildering in its solemn influence. To come out from the lonely little house folded among the hills, with all its miseries past and present, its sad story, its secret, the atmosphere of human suffering in it, to all the still glory of the summer morning was of itself a bewilderment. The same world, and only a step between them: but one all pain and darkness, mortal anguish, and confusion, the other all so clear, so sweet, so still, solemn with the serious beginning of the new day, and instinct with that great, still pressure of something more than what is seen, some soul of earth and sky which goes deeper than all belief, and which no sceptic of the higher kind, but only the gross and earthly, can disbelieve in. Young Geoff disbelieving nothing, his heart full of the faith and conviction of youth, came out into this wide purity and calm with an expansion of all his being. It was all he could do not to burst into sudden tears when he felt the sudden relief—the dew crept to his eyelids though it did not fall, his bosom contracted and expanded as with a sob. To this world of mountain and cloud—of rising sunshine and soft breathing air, and serene delicious silence pervaded by the soft indistinguishable hum of unseen water and rustling grasses, and minute living creatures, unseen beneath the mountain herbage—what is the noblest palace built with hands but a visible limitation and con-

traction of the world, an appropriation of a petty corner out of which human conceit makes its centre of the earth? Bampfylde, who had come out with him, and to whom the story Geoff had just heard was not new, felt the relief more simply. He drew a long breath of refreshment and ease, expanding his breast and stretching out his arms, and then this rough vagrant fellow, unconscious of literature, did what Virgil did in such a morning for his poet companion; he spread both his hands upon the fragrant grass, all heavy with the early dew, and bathed his face and weary eyes.

"That's life," said the man of woods and hills; the freshness of nature was all the help he had, all the support as well as all the poetry his maimed existence could possess.

Bampfylde went with his young companion round the shoulder of the hill to show him the way. It was a nearer and shorter road to the level country than that by which they had come, for Geoff was anxious to get home early. Bampfylde pointed out to him the line of road which twisted about and about like a ribbon, crossing now one slope, now another, till it disappeared upon the shadowed side of the green hill which presided over Penninghame, and beyond which the lake gleamed blue, not yet reached by the sunshine.

"It's like the story," he said, "it's like a parable; ye come by Stanton, my young lord, and ye go by Penninghame. It's your nearest way; and there, if you ask at John Armstrong's in the village, ye'll get a trap to take you home."

Geoff was not sufficiently free in mind to be able to give any attention to the parable. Those fantastic symbolismisms of accident or circumstance which so often would seem to be arranged like shadows of more important matters by some elfish secondary providence, need a spirit at rest to enter into them. He was glad to be alone, to realize all that he had heard, to compose the wonderful tangle of new information and new thoughts into something coherent, without troubling himself about the fact that he was now bending his steps direct, the representative of Walter Stanton who had been killed, to the house from which John Musgrave had been wrongfully driven for having killed him. He did

not even yet know all the particulars of the story, and as he endeavored to disentangle them in his mind Geoff felt in his bewilderment that absolute want of control over his own intelligence and thoughts which is the common result of fatigue and overstrain. Instead of thinking out the imbroglio and deciding what was to be done, his mind, like a tired child, kept playing with the rising light which touched every moment a new peak and caught every moment a new reflection in some bit of mountain stream or waterfall, or even in a ditch or moorland cutting, so impartial is Heaven; or his ear was caught by that hum of mystic indistinguishable multitude—"the silence of the hills"—so called, the soft rapture of sound in which not one tone is distinct or anything audible; or his eye by the gradual unrolling of the landscape as he went on, one fold opening beyond another, the distant hills on one hand, the long stretch of Penninghame water with all its miniature bays and curves. Then for a little while he lost the lake by a doubling of the path, which seemed to reinclose him among the hollows of the hills, and which amused him with the complete change of its shade and greenness; until turning the next corner, he found the sun triumphant over all the landscape and Penninghame water lying like a sheet of silver or palest gold, dazzling and flashing between its slopes. This wonderful glory so suddenly bursting upon him completed the discomfiture of young Geoff's attempts at thought. He gave it up then, and went on with weary limbs and a mind full of languid soft delight in the air about him and the scene before his eyes, attempting no more deductions from what he had heard or arrangements as to what he should do. Emotion and exertion together had worn him out.

About the time he resigned himself (with the drowsy surprise we feel in dreams) to this incapable state, his eye was caught by a speck upon the road beneath advancing towards him, so small in the distance that Geoff's languid imagination, capable of no more active exercise, began to wonder who the little pilgrim could be, so little and so lonely, and so early astir. Perhaps it was the distance that made the advancing passenger look so small. Little Liliat at

the Castle would have satisfied her mind by the easy conclusion that it was some little fairy old woman, the traveller most naturally to be met with at such an hour and place. But Geoff, more artificial, did not think of that. He kept watching the little wayfarer, as the figure appeared and disappeared on the winding road. By and by he made out that it was either a very small woman or a little girl, coming on steadily to meet him, with now and then an occasional pause for breath, for the ascent was steep. Geoff's mind got quite entangled with this little figure. Who could it be? who could she be? A little cottager bound on some early expedition, seeking some of the mountain fruits, blackberries, cranberries, wild strawberries, perhaps: but then she never turned aside to the rougher ground, but kept on the path; or she might be going to some farmhouse to get milk for the family breakfast: but then there were no farmhouses in that direction. Altogether Geoff felt himself quite sufficiently occupied as he came gradually downwards watching this child, his limbs feeling heavy, and his head somewhat light. At last, after losing sight of the little figure which had given him for some time a sort of distant companionship, another turn brought him full in sight of her, and so near that he recognised her with the most curious and startling interest. He could not restrain an exclamation of surprise. It was the little girl whom he had met at the door of Penninghame Castle, John Musgrave's child, the most appropriate, yet the most extraordinary of all encounters he could have made. He stood still in his surprise, awaiting her; and as for little Liliat she made a sudden spring towards him, holding out her hand with a cry of joy, her little, pale face crimsoned over with relief and pleasure. Her heart and limbs were beginning to fail her; she had begun to grow frightened and discouraged by the loneliness; and to see a face that had been seen before, that has looked friendly, that recognised her—what a relief it was to the little wayfaring soul! She sprang forward to him, and then in the comfort of it fairly broke down, and sobbed and cried, trying to smile all the time, and to tell him that she was glad, and that he must not mind.

Geoff, however, minded very much. He was full of concern and sympathy. He took her hand, and putting his arm round her (for she was still a child), led her to the soft, mossy bank on the edge of the path, and placed her there to rest. He was not at all sorry to place himself beside her, notwithstanding his haste. He, too, was so young and so tired! though for the moment he forgot both his fatigue and his youth, and felt most fatherly, soothing the little girl, and entreating her to take comfort, and not to cry.

"Oh," said little Liliás, when she recovered the power of speech, "I am not crying for trouble, *now*; I am crying for pleasure. It was so lonely. I thought everybody must be dead, and there was no one but only me in all the world."

"That was exactly what I felt, too," said Geoff; "but what are you doing here, so far away, and all alone? Have you lost yourself? Has anything happened? When you have rested a little, you must come back with me, and I will take you home."

The tears were still upon the child's cheeks, and two great lucid pools in her eyes, which made their depths of light more unfathomable than ever. And after the sudden flush of excitement and pleasure, Liliás had paled again; her little countenance was strangely white; her dark hair hung, loosely curling, about her cheeks; her eyes were full of pathetic meaning. Geoff, who had thrown himself down beside her, with one arm half round her, and holding her small hand in his, felt his young breast swell with the tenderest sympathy. What was the child's trouble that was so great? Poor little darling! How sweet it was to be able to fill up her world, and prove to her that there was not "only me." One other made all the difference; and Geoff felt this as much as she did. Her face had gleamed so often across his imagination since he saw it: the most innocent visitant that could come and look a young man in the face in the midst of his dreams—only a child! He felt disposed to kiss the little hand in half fondness, half reverence; but did not, being restrained by something more reverent and tender still.

"I would like to go with you," said

Liliás, "but not home. I am not going home. I am going up there—up, I don't know how far—where the old woman lives. I am trying to find something out, something about papa. Oh, I wonder if you know! Are you a friend of my papa? You look as if you had a friend's face—but I don't know your name."

"My name—is Geoffrey Stanton—but most people call me Geoff. I should like you to call me Geoff—and I am a friend, little Lily. You are Lily, *too*, are you not? I am a sworn friend to your papa."

"Liliás," said the child, with a sigh; "but I don't think I am little any more. I was little when I came, but old; oh! much older than any one thought. They thought I was only ten, because I was so little; but I was twelve! and that will soon be a year ago. I have always taken care of Nello as long as I can remember, and that makes one old you know. And now here is this about papa, which I never knew, which I never heard of, which is not true, I know. I know it is not true. Papa kill any one? *papa*? Do you know what that means? It is as if—the sky should kill some one, or the beautiful kind light, or a little child. All that, all that, sooner than papa! Me, I have often felt as if I could kill somebody: but *he*—" the tears were streaming in a torrent down the child's cheeks, and got into her voice; but she went on, "he! people don't know what they are saying. I do not know any words to tell you how different he is—that it is impossible, *impossible! impossible!*" she cried, her voice rising in intensity of emphasis. As for Geoff, he held her hand ever closer, and kept gazing at her with the tears coming to his own eyes.

"He did not do it," he said. "Listen to me, Liliás, and if you write to him, you can tell him. Tell him Geoffrey Stanton knows everything, and will never rest till he is cleared. Do you know what I mean? You must tell him—"

"But I never write—we do not know where he is; but tell me over again for me, *me*. He did not do it. Do you think I do not know that? But Mr. Geoff (if that is your name) come with me up to the old woman, and take her to the tribunal, and make her tell what

she knows. That is the right way, Martuccia says so, and I have read it in books. She must go to the judge, and she must say it all, and have it written down in a book. It is like that—I am not so ignorant. Come with me to the old woman, Mr. Geoff."

"What old woman?" he asked. "And tell me how you heard of all this, Liliás. You did not know till the other day?"

"Last night—only last night; there is a man, an unkind, disagreeable man, who is at the Castle now. Mary said he was my uncle Randolph. They were in the hall, and I heard them talking. That man said it all; but Mary did not say no as I do, she only cried. And then I rushed and asked Miss Brown what it meant. Miss Brown is Mary's maid, and she knows everything. She told me about a gentleman, and then of some one who was mamma, and of an old woman who could tell it all, up, up on the mountain. I think perhaps, it is the same old woman I saw."

"Did you see her? When did you see her, Lily?"

"I was little then," said Liliás, with mournful, childish dignity. "I had not begun to know. I thought, perhaps, it was a fairy. Yes, you will laugh. I was only not much better than a child. And when children are in the woods, don't you know, fairies often come? I was ignorant, that was what I thought. She was very kind. She kissed me, and asked if I would call her granny. Poor old woman! She was very very sorry for something. I think that must be the old woman. She knows everything, Miss Brown says. Mr. Geoff," said Liliás, turning round upon him, putting her two clasped hands suddenly upon his shoulder, and fixing her eyes upon his face, "I am going to her, will you not come with me? It is dreadful, dreadful, to go away far alone—everything looks so big and so high, and one only, one is so small, and everything is singing altogether, and it is all so still, and then your heart beats and thumps, and you have no breath, and it is so far, far away. Mr. Geoff, oh! I would love you so much, I would thank you for ever; I would do anything for you, if you would only come with me! I am not really tired; only frightened. If I could have brought Nello, it would have

been nothing. I should have had him to take care of—, but Nello is such a little fellow. He does not understand anything; he could not know about papa as I do, and as you seem to do. Mr. Geoff, when was it you saw papa? Oh! will you come up, up yonder, and go to the old woman with me?"

"Dear little Lily," said Geoff, holding her in his arms, "you are not able to walk so far; it is too much for you; you must come with me home."

"I am able to go to the end of the world," cried Liliás, proudly. "I am not tired. Oh, if you had never come I should have gone on, straight on! I was thinking, perhaps, you would go with me, that made me so stupid. No, never mind, since you do not choose to come. Good-bye, Mr. Geoff. No, I am not angry. Perhaps you are tired yourself:—and then," said Liliás, her voice quivering, "you are not papa's child, and it is not your business. Oh! I am quite able to go on. I am not tired—not at all tired; it was only," she said, vehemently, the tears overpowering her voice, "only because I caught sight of you so suddenly, and I thought he will come with me, and it made my heart so easy, but never mind, never mind!"

By this time she was struggling to escape from him, to go on, drying her tears with a hasty hand, and eager to get free and go upon her journey. Her lips were quivering, scarcely able to form the words. The disappointment, after that little burst of hope, was almost more than Liliás could bear.

"Lily," he said, holding her fast, despite her struggles, "listen first. I have just been there. I have seen the old woman. There is nothing more for you to do, dear. Won't you listen to me, won't you believe me? Dear little Lily, I have found out everything, I know everything. I cannot tell it you all, out here on the hillside; but it was another who did it, and your papa was so kind, so good, that he allowed it to be supposed it was he, to save the other man——"

"Ah!" cried Liliás, ceasing to struggle, "ah! yes, that is like him. I know my papa, there. Yes, that is what he would do. Oh, Geoff, dear Mr. Geoff, tell me more, more!"

"As we go home," said Geoff. He

was so tired that it was all he could do to raise himself again from the soft cushions of the mossy grass. He held Lillas still by the hand. And in this way the two wearied young creatures went down the rest of the long road together—she, eager, with her face raised to him; he stooping towards her. They leaned against each other in their weariness, walking on irregularly, now slow, now faster, hand in hand. And oh! how much shorter the way seemed to Lillas as she went back. She vowed never, never to tell any one; never to talk of it except to Mr. Geoff—while Geoff, on his part, promised, that everything should be set right, that everybody should know her father to be capable of nothing evil, but of everything good, that all should be well with him; that he should come and live at home for ever, and that all good

people should be made happy, and all evil ones confounded. The one was scarcely more confident than the other that all this was possible and likely, as the boy and the girl came sweetly down the hill together, tired but happy, with traces of tears about their eyes, but infinite relief in their hearts. The morning, now warm with the full glory of the sun, was sweet beyond all thought—the sky, fathomless blue, above them—the lake a dazzling sheet of silver at their feet. Here and there sounds began to stir of awakening in the little farmhouses, and under the thatched cottage eaves; but still they had the earth all to themselves like a younger Adam and Eve—nothing but blue space and distance, sweet sunshine warming and rising, breathing of odors and soft baptism of dew upon the new-created pair.

(To be continued.)

MODERN DIPLOMACY.

BY J. HAMILTON FYFE.

THERE has always been a great difference of opinion as to the characteristics and practical utility of diplomacy. Viewed from one side, it has been celebrated for its wholesome moral influence and beneficial effect on human affairs, while from another side it has been derided as mere craft and duplicity, or a hollow pretence of ordering events which are beyond its control. There can be no doubt that, in its best sense, diplomacy is, or might be, a great force in the world, and that momentous results from time to time depend upon its operations. Some years ago Mr. Gladstone glorified it as "one of the highest kinds of civilisation," inasmuch as "on the field of controversy between nations, where formerly nothing was settled except by the sword, the reason of man has now stepped in, and in fair argument the rights of nations are settled and upheld." It was probably a recollection of this declaration which led M. Guizot, during the French-German war, to address a letter to this statesman, in which he urged him to use his influence with his countrymen to bring about mediation between the belligerents. He pointed out that, while there had been many things in the

general policy of Europe since 1815 to be condemned and regretted, there was at least "one great new principle which has met with universal recognition in Europe for more than half a century; there has never been any question of a war of ambition for the sake of conquest; no European Power has attempted by mere force to aggrandise itself at the expense of other Powers; and respect for international law and peace has become the fundamental maxim of international policy." This, he held, "was the most important and valuable political fact on record in the first half of the century," and had had "more influence and power in helping to re-establish principles of right and justice as between governments and peoples, in promoting the development of the resources of the different nations, and the progress of civilisation throughout the world, than any other event during that period." M. Guizot cited the formation of Switzerland and Belgium into neutral States, under the protection of the Great Powers, as a proof of the good results of conjoined action; and suggested that this valuable principle was "capable of extended application, and that the Powers should exert

themselves to maintain the balance of power, the tendency of which had been for four centuries to save Europe, in spite of her faults, crimes, troubles, and misfortunes, from being at the mercy of violence and chance." This may be thought to be somewhat too favorable and sanguine a view of the subject; but there can be no question that the Treaty of Vienna and the arrangements as to Switzerland and Belgium had, on the whole, a tranquillising effect. Lord Dal-ling (Sir Henry Bulwer) has also given examples from his own experience of war being averted by timely interventions on the part of diplomatists; as when in 1840 the relations of England and France were strained by complications in the East; when afterwards, having threatened Spain and France to take possession of the African coast opposite Gibraltar, Sir Henry, without instructions and on his own responsibility, settled the difficulty by getting Spain to withdraw; and further, when there was a danger of hostilities between the United States and England on account of a question in connection with the Nicaraguan Consul. Other evidence of a similar kind might no doubt be quoted as to the beneficial effects of diplomacy when undertaken in good faith, in the way of substituting confidence and good-will for suspicion and hostility, and settling differences so quietly that they are never heard of.

On the other hand, there is no lack of hard things said about diplomacy and diplomatists. There is an old definition of "ambassador," as "one who lies abroad for the good of his country;" and the First Napoleon seems to have shared this opinion, for in his instructions to Prince Eugène Beauharnais as to his conduct as viceroy in Italy, he says: "An ambassador will not say any good of you, because his trade is to say all the bad he can. Foreign ministers are, in all the force of the term, titled spies." The Due de Morny has also been credited with the *mot* that "diplomacy is the art of deluding others without appearing to do so." It is said that a Russian minister, Chancellor Bestoujef, who was a perfect speaker, feigned to stutter. In his conversations with foreign agents he was scarcely intelligible, and he complained of being deaf and not understanding what was said to him. He was

also in the habit of writing his diplomatic notes in an almost illegible handwriting. There may be some exaggeration in this story, but experience seems to suggest that, though diplomatists may not be all such deliberate impostors as the one just described, diplomacy is in a great degree a system of deceit. Macaulay, in one of his letters, mentions Talleyrand talking at Holland House about Metternich and Cardinal Mazarin, and distinguishing between them by saying, "Le Cardinal trompait, mais il ne mentait pas; or M. de Metternich ment toujours, et ne trompe jamais." The amount of veracity to be found in diplomatic communications is certainly open to suspicion; and not less so that Talleyrand has protested against the prejudice with regard to diplomatists on this point. "Diplomacy," he says, in a fragment which has been extracted from his as yet unpublished Memoirs, "is not a science of ruse and duplicity. If good faith is anywhere necessary it is above all in political transactions, for it is this that makes them solid and durable. Reserve is confounded with deception. Good faith never authorises the latter, but it allows reserve; and reserve often adds to confidence." The gloss on these observations may perhaps be found in the same authority's proverbial saying, that language was given to man only to disguise his thoughts. Truth in diplomatic usage is thus not, as a rule, the whole truth and nothing but the truth; and the suppression of an essential part of the truth is of course tantamount to falsehood.

Talleyrand himself may be taken as a characteristic type of the wily and unscrupulous diplomatist. Without being in any sense a great statesman, he had a quick eye for the drift of events, and rarely failed in the course of his long and devious career, in which he was on every side in turn, to identify himself with the winning cause of the day. It has been justly said that he was essentially the representative of *la politique expectante*. When asked at a critical moment what he meant to do, he replied, "To do? I never do anything. I wait." And in another case of doubtful conflict, he provided himself with cockades of the color of each party, so as to be prepared for whatever might happen.

In short, he was the man of the age who knew best how to profit by accomplished facts. It is needless to say that his reputation suffered from his unscrupulous ways, but even those who knew his treachery found him too useful to be thrown over. Towards the end of his life, he himself said to Thiers, "Do you know, my dear sir, that I have been for forty years the most morally discredited man in Europe, and yet I have always been powerful on the side of power." Guizot has said that, except in a crisis or Congress, Talleyrand was neither skilful nor prompt. "He excelled in treating by conversation and by the use of social relations with isolated persons; but in the authority of character, fecundity of spirit, promptitude of resolution, power of words, sympathetic intelligence of general ideas and public passion, and all the grand means of action on men gathered together, he was wholly wanting. As a politician he was without scruples, indifferent to means, and almost to the end in view, provided that it tended to his personal success; coldly courageous in peril, he was suitable for the great affairs of an absolute government, but one with whom the open air and day of liberty did not agree." Mignet, who calls him "the prince of diplomatists," also says that if not the most dexterous of that class, he was at least the most roguish (*le plus fourbe*) and astute. Among the subordinate diplomatists of that day was Count Montrond, the tool of Talleyrand, who, without any visible means of livelihood, except gambling, managed to lead a luxurious life in Paris and London. Talleyrand was strongly suspected of going shares with Montrond in speculations on secret information as to foreign affairs; and a writer of authority has stated from his own knowledge that when Talleyrand was ambassador at London he used to leave Montrond in his carriage at the door of the Foreign Office during his interview with the Foreign Secretary, and that more than once Montrond, on receipt of a scrap of paper, suddenly drove off to the City by himself. He served as a spy under the Bourbons, and afterwards had a large pension from Louis Philippe for similar services.

Such men and such principles are certainly not calculated to win respect for

diplomacy, and it is to be feared that even in modern days there are in some countries traces of the old taint. At any rate Talleyrand's theory as to the use of words is evidently not extinct. When Count de Karolyi, the Austrian ambassador at the Prussian Court, asked Count Bismarck whether he intended to annul the Treaty of Gastein, dividing the Danish Duchies between Prussia and Austria, the reply was, "No, I have no such intention; but if I had, should I have given you a different answer?" which, it may be supposed, did not set at rest the Austrian ambassador's apprehensions. In fact, as the future showed, the Prussian Government did not desire to openly annul the Treaty, but preferred to keep it standing as a cover for more advanced designs. Again, at a more recent date, we find Prince Gortschakoff pledging himself to give information to the English Government as to the state of affairs in Central Asia, with the qualification that, though he might not tell everything, yet that everything he thought fit to tell would be strictly true—an example of the "reserve" which Talleyrand distinguished from a "ruse," though to most people they seem to be very much akin. There is another gift of speech which Mr. Kinglake attributed to Lord Raglan in his conversations with Marshal de Saint-Arnaud, and which represents another kind of reserve—"the power," as the historian puts it in his subtle analysis, "which is one of the most keen and graceful accomplishments of the diplomatist;—the power of affecting the hearer with an apprehension of what remains unsaid; a power which exerts great sway over human actions, for men are more urgently governed by what they are forced to imagine than by what they are allowed to know." Here the reserve is not so much a process of concealment as a stimulant applied to the imagination of the person addressed, which expands his ideas.

There is also a peculiar kind of outspokenness, which, as Lord Palmerston has pointed out, is conspicuous in the First Napoleon's political conduct, that, so far from hiding his designs, he purposely published even the most violent of them some time before they were put into execution, so that by familiarity people might become used to them, and that

there should be no shock of surprise when they at last happened. To a certain extent Prince Bismarck—who, at the present day in his domineering aggressiveness and unscrupulous methods of policy, presents a close resemblance to the great Emperor—has also adopted the practice of making curious confidences, not indeed to the world at large, but to the leading personages with whom he has to deal. M. Klackzo, who has had good opportunities of studying this statesman, gives the following account of his impression of his character:—"No one can doubt his prodigious talent in dissimulation, and the supreme art with which he dresses up the truth. He has the genius to know how to give his frankness all the political virtues of *fourberie*. Very cunning and astute as to means, he has also shown extraordinary impulsiveness and indiscretion." In some instances, however, his indiscretions were no doubt calculated and intentional. The wild way, for instance, in which he used to talk of the designs of Prussia for the future, and the proposals he made, or at least insinuated, as to a division of spoils between Prussia and France, drew from the Emperor frequent "asides" to Mérimée, who accompanied them in their walks up and down the terrace of the Chateau and the sands, "What a mad fellow it is!" It is said that Bismarck had also his private opinion that the Emperor was "the embodiment of misunderstood incapacity." However that may have been, there was certainly a method in his madness which afterwards bore fruit, for the temptation gradually worked on Napoleon, and led him to think that, after all, a re-arrangement of Europe by France and Prussia to the advantage of each was a more feasible scheme than it had at first seemed.

This indeed has been the course of Bismarck's tactics throughout his whole career. In the preliminary Schleswig-Holstein negotiation he deluded both Lord John Russell and the Danish Minister at Berlin with the idea that he himself was a true friend of Denmark, and was using his influence to preserve its integrity, while all the while treacherously undermining it. His policy was much the same with regard to Austria, whose reasonable suspicions of Prussia he lulled

by representing himself as anxious to bring the troublesome Bund under the joint control of the two great German states, who would rule Germany in concert. Yet during this period he was secretly plotting against Austria, and bent on annexing the Elbe provinces, together with the valuable port of Kiel, for his own country; and finally excluding Austria from Germany. The King of Hanover is believed to have been similarly betrayed by delusive communications from Prussia. It may also be noted as a curious circumstance illustrative of the Prince's ways, that Lord Salisbury's account of his interview with the Prince at Berlin, in November last, when on his way to the Conference, has never been published, although Lord Odo Russell mentions in a despatch that "his Lordship has reported to her Majesty's Government the impressions received from his visit;" and that it was his own "pleasing duty" to state that the reception of the plenipotentiary was most cordial; that his visit gave pleasure; and Prince Bismarck recognised its "value and importance; and, in conversation with leading men, had paid the highest tribute to his Lordship's great qualities as a statesman and as a negotiator." It is possibly only Lord Salisbury's modesty which prevents this flattering certificate from being given to the world; but it may also be suspected, from the Prince's confidential outbursts on other occasions, that he took the opportunity of overwhelming the Plenipotentiary by his effusive candor as to his own schemes for the settlement of all European difficulties, so that he might bind him over not to divulge anything which passed. M. Boucher, in his *Récits de l'Invasion*, gives some amusing particulars which he received from M. Thiers, after that gentleman's visit to the Prince at Versailles, which throws some light on his affable terms with visitors. Leaning with both arms on the table, Bismarck suddenly interrupting the business discussion which was going on, asked permission to smoke a cigar, which was of course granted; and he then relaxed into a gossiping conversation, full of anecdotes and reminiscences upon all sorts of subjects, and beguiled M. Thiers into a similar strain of lively talk. When, after a time, M. Thiers wished to

resume the question on which he had come, Bismarck seized him by the hand, and exclaimed pathetically, "No, let me continue yet a little while; it is so delightful to find oneself once more with a civilised being." In Lord Salisbury's case it was about ten o'clock at night that the interview took place, and it may be imagined that he also was received as a civilised being, with whom it was the Prince's delight to commune heart to heart, and that the results of the talk were somewhat more discursive and intimate than would be suitable for record in a Blue Book. Anyhow, the fact remains that Lord Derby resolutely refuses to let it come to light.

Perhaps, on the whole, the personage who has most cast discredit on modern diplomacy, and diverted it to evil uses, is the Emperor Napoleon III. In the *Journal d'un Diplomate en Italie*, M. Henri d'Ideville, who was at a critical time attached to the French embassy at Turin, gives a graphic picture of his august master's habits with regard to foreign affairs. He says that Napoleon, though full of good intentions, was a *rêveur borné*, and always mysterious and reserved as to his plans, as to which indeed he was fluctuating and uncertain up to the last moment, when his ideas might take an unexpected direction. "Do you see," said Cavour one day to d'Ideville, "your Emperor will never change; his fault is always to conspire; yet is he not absolute master, with a powerful country and a great army at his back, and Europe tranquil? What, then, has he to fear? Why should he constantly disguise his thought, and seem to go straight when he means to turn to the left, and *vice versa*? Ah, what a marvellous conspirator he makes!" Upon which M. d'Ideville remarked, "Yes, and you have been a conspirator too!" "True," said Cavour; "but I could not help it; it was absolutely necessary to keep things secret from Austria. But your Emperor will remain for ever incorrigible. I knew it long ago. At this moment he could march right on, openly fulfilling his end. But no! he prefers to throw people off the scent, and to go off on a sudden track—to conspire, in fact—to conspire always! This is the turn of his genius; it is the *métier* he professes; he examines it like an

artist, as a *dilettante*, and in this rôle he will ever be first." Another witness, who knew the Emperor well, said of him—"He is a man of events; confident to folly in his destiny, in his star, he had the conviction that at the right moment fate would take care to deliver him from embarrassment. It was chance alone which made him a great man in the eyes of the vulgar. A *bonheur insensé*, an unparalleled luck, has saved him up to this day, and he has allowed himself to be led by events."

There can be no doubt that this was Louis Napoleon's character to the core. It was as a conspirator that he snatched his crown, and in all his career he acted in the same spirit. During the Crimean war he was continually hatching diversions from settled arrangements and points of policy; and when peace was arrived at he went round insidiously to the Russian side, and deprived the Allies of some of the conditions which were essential to a permanent settlement, and the want of which have since given rise to complications which might have been prevented if taken at the right time. His liberation of Italy was accompanied by plots against its unity; his policy as to the Pope, capricious and vacillating, embarrassed the Italian government; and though he afterwards got it Venetia, it was only to serve his own purposes, and to give him importance in Europe. He also felt that his position would be strengthened by a conflict between Prussia and Austria, whichever might win, and for years he did all he could to bring one about. In 1850, while President of the Republic, whose open policy was a professed desire for peace, he sent his friend De Persigny on a private mission to Berlin to sound the King, and suggest that the Prussians should seize an early opportunity of getting up a war with Austria. At the end of 1855 the Emperor sent the Marquis of Pepoli on a similar errand, to point out that "Austria represented the past, Prussia the future; and that, as long as Austria stood in the way, Prussia would be condemned to a state of inaction which could not satisfy her, for a higher destiny awaited her, and Germany expected her to fulfil it." In 1861, during the King of Prussia's visit to France, a grand scheme was started of great agglomerations of terri-

stories by the three races, Roman, Slavonic, and Germanic, and there was talk of France extending her frontier in the direction of Belgium and Holland. When the Austro-Prussian war occurred, Napoleon expected to be able to interpose as mediator, and that it would be easy to obtain a territorial extension of France. In this, however, he was disappointed, and it was his rankling resentment against Prussia for its curt refusal of his demands in 1866 which led up to the war of 1870.

On the whole, then, it would appear that, though the ideal of diplomacy which is held up as an example of its perfection by Mr. Gladstone and M. Guizot, would no doubt, if it were successfully carried out, be a great blessing for the world, as a matter of fact, the system which has actually been practised in recent years is of a very different character, and has been associated with very different motives and objects. A rampant spirit of aggression and covetous desire has been at work; and though some of the objects aimed at may have been justifiable enough, the means adopted were in too many cases inconsistent with a sound code of international law. Any one who looks back to the general course of diplomatic policy on the Continent after the establishment of the Second Empire, must see that it led the way in a restless meddlesomeness which has produced a general unsettlement of the conditions on which alone the peace of Europe can be steadily preserved. As it happened, the liberation of Italy has turned out well, but the way in which it was accomplished by foreign intervention, and the price to which the assisting power helped itself, were certainly perilous precedents; and there can be little doubt that the germs of disturbance which were thus sown had their development in the confiscation of the Danish Duchies by Prussia, and the subsequent exclusion of Austria from the German Confederation. Lord Russell, in commenting on the Treaty of Gastein, said very truly, "All rights, old and new, whether based upon a solemn agreement between sovereigns, or on the clear and precise expression of the popular will, have been trodden under foot by the Gastein Convention, and the authority of force is the sole power which has been

consulted and recognised. Violence and conquest, such are the chief bases upon which the dividing Powers have established the Convention." Austria had a terrible penalty to pay for her connivance in this outrage, and its effects are by no means exhausted. It is curious now to look back upon the wonderful project of a Congress with which the Emperor Napoleon startled the world in 1863. It was a dream of the first Buonaparte that Europe ought to be formed into a vast Empire to which he was to give laws dated indifferently from Paris, Rome, Moscow, Berlin, Vienna, and Madrid; and that henceforth any contention among European States was to be deemed civil war. Napoleon III. was smitten with this conception, but knew of course that it had failed in his uncle's case and was still more impracticable in these days. But he thought he might make good play for himself and France by getting up the plan of a general Congress to settle off-hand all the difficulties of Europe. It is true that at the close of the Congress of Paris, when everybody was for the time sick of war, there was a feeling in favor of taking means to check it as much as possible; and with that view a protocol was adopted, in which it was recommended that States between whom any serious difference might arise, should seek mediation by a friendly Power before appealing to arms. Lord Clarendon expressed a hope that this "happy innovation might receive a more general application, and thus become a barrier against conflicts which broke forth because it was not always possible to give explanations." This happy innovation remains, however, a mere paper figment. It is impossible to imagine any cases to which it would have been more applicable than in regard to the pretext of the spoliation of Denmark by Prussia, the struggle between Prussia and Austria, and the subsequent war between Germany and France; yet no serious attempt was made by the neutral Powers to apply the rule. If Napoleon had been loyal and sincere in the professed desire for universal peace with which he summoned the abortive Congress, he might, in conjunction with England, have done much to arrest events which have caused great mischief to the princi-

ples of good faith and mutual consideration among nations; but it was not to be. The intense folly of the plan for raking up all the latent troubles of Europe in the vain hope of settling them by "the deliberations of a Congress which would consist of demands and pretensions put forward by some and resisted by others, so that, there being no supreme authority in such an assembly to enforce the decision of the majority, the Congress would probably separate, leaving many of its members on worse terms with each other than they had been when they met," was clearly expressed in Lord Russell's incisive despatch, which at once exploded the bubble. Unfortunately it left a sting in the Emperor's breast which he had not the magnanimity to forget; and the breach between England and France which ensued was fatal to Danish interests. In the case of the war between France and Germany arising from the question as to a German candidate for the Spanish throne, the point in itself was nothing more than a reproduction of the dialogue of the retainers of the rival houses of Verona—"Do you bite your thumb?" "I do bite my thumb, sir." "Do you bite your thumb at me?" "No, sir, I do not bite my thumb at you, sir, but I bite my thumb." And it is a pity that England, Russia, and Italy did not step in like Benvolio, and cry, "Part, fools, put up your swords; you know not what you do." Again, the hollow arrangement for the neutrality of Luxemburg which was made in 1870, and the recent Eastern protocols, may be taken as other examples of the vapory character of international intervention for the protection of public interests. The ministerial explanation was that a collective guarantee had rather the character of a moral sanction than a contingent liability to go to war, and that, unless all were agreed, no one party was called upon to do anything.

Lord Derby the other day laid down a sort of programme of diplomacy which deserves attention. He said, "We have to consider not only one particular point, but what is the state of matters over the whole world; and we have to consider also the risk of involving ourselves in hostilities in any one part of the world where thereby we

might disable ourselves from even necessary defence in some other place where our interests are much more threatened." And then he added: "I say this only in a general and theoretical manner, for my own part, having attended to foreign politics for a great many years. Not many convictions have been so permanently impressed on my mind as that of the utter incapacity of the—I do not say average man—but of the wise man, to foresee coming events." As to the latter part of this statement, though Lord Derby no doubt drew it from his own personal experience, the substance of it had already been anticipated by Mr. Nassau Senior, who imagined a plan for training Foreign Office clerks, who were to be periodically required to prophesy the issue of existing political "questions," and upon their success, as tested by subsequent events, was to depend their promotion to responsible office; and also by Lord Palmerston, to whom the observation did not apply, for he always looked forward. He said, "There are very few public men in England who follow up foreign affairs sufficiently to foresee the consequence of events which have not happened." A striking confirmation of this was given upon Lord Granville's succeeding Lord Clarendon as Foreign Secretary on the eve of the French-German war, when he stated on the authority of Mr. Hammond, that there never was a time when the political atmosphere of Europe was so serene and cloudless, and the prospects of peace so well assured. Before another day or two France and Germany were practically at war, and the Protocol of the Treaty of Paris, above referred to, was treated by both with great contempt. The reason was that they had made up their minds to fight, and wanted only an excuse, no matter how trivial or absurd.

The moral of all this business is in fact to be found in the comment of the Bishop of Fréjus on the proposal of the Abbé de Saint-Pierre for a European Diet (the precedent for Louis Napoleon's fantastic congress), to make peace all over the world, to the effect that one thing was wanting, to send a troop of missionaries to dispose the heart and spirit of princes. The truth is, that in the present day diplomacy is passing

through a transition stage. The old system of diplomacy was essentially personal, and took account of only a narrow range of persons and interests. It was effective, because it was entirely under the control of those who worked it, and was directed by them to definite and well-understood aims. It was, in fact, a general agreement between some half-a-dozen gentlemen as to their common interests and mutual relations, and was conducted on their behalf by trusty experts, who enjoyed their master's confidence, and knew exactly what they wanted. The gradual development of popular rights and opinion has now upset the old system—at least in our own country. The nation will not trust itself blindfold to any minister. Lord Palmerston was left pretty much to himself, and what he thought best, that he could straightway give effect to. But Lord Derby has to consider not only what is best to be done, but how far the country will go with him. No foreign minister can now safely dispense with taking the country fully into his confidence—if he does, he runs the risk of finding himself left in the lurch. Further, any attempt at a game of brag, with a view to impressing foreign Powers, is attended by the peril of either being repudiated by public opinion at home or of being out-run by it, opinion getting excited in earnest. Hence secret and personal diplomacy is no longer practical for us. Absolute non-intervention is also impossible—and so is the old balance of power, which excluded moral force, took the measure only of physical power, and was based on the selfish and ungenerous principle that physical force could only be used for bad ends, and was certain, when it existed in a superior degree, to be misused.

The only sound basis of modern diplomacy is not so much a material as a moral balance of force between nations, imitated from that between individuals in private society—the balance of honest men against rogues and burglars, of peaceable government against the roughs; a corporate balance of principle, and not of mere individual personal strength. Above all, as the people must now take part in diplomacy, they should learn a decent control of temper and language, and allow for their own ignorance of

facts. Moreover, there is a decided want of plain, straightforward language in diplomatic communications. What a difference Lord Palmerston's style would have made at the present time. The policy which he deemed safest was that of honesty and candor, and when he had anything to say he said it in the plainest and most unmistakable language, as, for instance, when he wrote to Sir H. Bulwer at Paris:—"If Thiers should again hold to you the language of menace, however indistinctly and vaguely shadowed out, pray retort upon him to the full extent of what he may say to you; and with that skill of language which I know you to be master of, convey to him in the most friendly and unoffensive manner possible, that if France throws down the gauntlet we shall not refuse to pick it up; and that if she begins a war, she will to a certainty lose her ships, colonies, and commerce before she sees the end of it; that her army of Algiers will cease to give her anxiety, and that Mehemet Ali will just be chucked into the Nile. I wish you had hinted at these topics when Thiers spoke to you; I invariably do so when either Guizot or Bourqueney begins to swagger; and I observe that it always acts as a sedative." And again, he says, "Nothing is more unsound than the notion that anything is to be gained by trying to conciliate people who are trying to intimidate us. I mean to conciliate by concession. It is quite right to be courteous in words, but the only possible way of keeping such persons in check is to make them clearly understand that one is not going to yield an inch, and that one is strong enough to repel force by force." The "great Eltchi" had also this distinctness of language; as Mr. Kinglake says:—"Every judgment which he pronounced was enfolded in words so complete as to exclude the idea that it could ever be varied, and to convey therefore the idea of duration." And those who remember the bold statement made to Prince Bismarck in February 1871, by Lord Odo Russell, who had been sent to Versailles in reference to the Black Sea question, will recognise a singular power of language on the part of that able and experienced diplomatist.—*Macmillan's Magazine*.

WAGNER.

BY THE REV. H. R. HAWES, M.A.

I.

WAGNER is the most powerful personality that has appeared in the world of music since Beethoven. But indeed he seems to me, in his wide range as poet, dramatist, musician, and philosopher, almost alone in the history of Art.

Beethoven was a musician only. His glory is to have carried the art of music to its extreme limits of development: no one has yet gone beyond him.

Wagner says, "I have invented nothing." You cannot invent metre after the Greeks, or the modern drama after Shakspeare, or coloring and perspective after the Italians—there is a point at which an art ceases to grow and stand full-blown like a flower.

Most people admit that in music, as in other arts, that point has been reached. What then remained? *This*, according to Richard Wagner: to concentrate into one dazzling focus all the arts, and, having sounded and developed the expressional depth, and determined the peculiar function of each, to combine them at length into one perfect and indivisible whole.

II.

"Perhaps he has some talent for music," said the sick man as he heard little Richard, then only seven years old, strumming a tune from "Der Freyschutz" on the piano. It was Louis Geyer, his stepfather, painter, author, and actor, now on his deathbed, thinking of the future, planning as dying men plan, and hitting the mark as they often hit it, quite at random. The child's vivid temperament and eager sensitive mind had always made him a favorite with the actor and the poet, and he thought of making a painter of Richard, but the boy seemed to have no turn for it. His mother, a woman full of life and imagination, was less anxious and more wise. She let him grow, and happily he was left to her, "with no education," as he says, "but life, art, and myself."

Indeed any attempt to hasten Wagner's development, or to fix his career, would doubtless have failed. From the

first, the consciousness of his own force has been one of his strangest and strongest peculiarities. At times it seems to have almost intoxicated him—at others it sustained and cheered him in utter loneliness; it has dominated all who have come in personal contact with him, and bent the minds and wills of the rebellious like reeds before the wind.

And the reason is evident. Wagner was always prodigious in his ability. Like those very fast trotters that flash along the highways of England and America, he has been in the habit of passing every one on the road, and passing them easily. But the consciousness of power bred in him a singular wilfulness. At school he could learn anything, but he would learn only as he chose and what he chose. When *his* time came he mastered, with incredible rapidity and accuracy, Greek, Latin, mythology, and ancient history. As for his music-master, he soon sent him to the right about, telling him he would learn music his own way. Indeed the variety of influences, and the rapidity with which he absorbed them, one after the other, quite unfitted him for going into harness early in any one direction.

At the age of seventeen he had dipped into most literatures, ancient and modern—glanced at science, learnt English in order to read Shakspeare, weighed several schools of philosophy, studied and dismissed the contending theologies, absorbed Schiller and worshipped Goethe (then eighty-four years old), turned away from the conventional stage of Kotzebue and Iffland, tasted politics, and been deeply stirred by the music of Beethoven.

There was doubtless a great indistinctness about his aims at this time. To live, to grow, to feel, to be filled with new emotions, and to sound his enormous capacities for receiving impressions and acquiring facts—this had hitherto been enough; but the vexed question was inevitable: to what end?

The artistic temperament could give but one answer to that—"EXPRESSION!" Creation itself—man—the world, the universe is nothing but that. There is



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RICHARD WAGNER.

ever this imperious divine necessity for outward expression. This is the lesson of the ages and of the universe—of which we see but a little speck realised upon our tiny and overcrowded planet. But this burning thought turns the mind of man itself into a divine microcosm—he, too, begins to obey in his higher activities what he perceives to be the supreme law of the divine life. He, too, must flash into self-consciousness, and breathe in form, until all that slept in the silence of his heart comes forth swift and radiant with the wind and fire of emotion, and stands at last like an angel, full of wreathed melodies and crowned with stars.

Such to the artist soul is the beloved parable of earth. The life within must become outward; all that we are is dying to be born, is craving to realize itself, to know, to possess, to adore! Is man social? His being passes by an organic law into the expression of family life. Is he political? He creates the State. Is he thoughtful and imaginative? He evolves literature, science, and the arts. Is he spiritual? His soul passes into the religions of the world.

It is quite obvious that life is here seized, not from the intellectual, but from the emotional side. The intellect is used to fathom, to formulate, to economize, and represent, in their most impressive forms, the feelings which would otherwise be wasted and misspent; but the intellect, which has played so important a part in Wagner's system, is always the second, never the first factor, and its function has been to analyze the various expressional media of the past and present, and to create some form or combination more exhaustive and powerful than all the rest.

Wagner was willing to be led. But he could not help feeling that an artist now is the heir of all the ages, that now for the first time he can stand and gauge the creations of the past in poetry, painting, drama, and music, and ask himself how far, through these, has the inner world of the mind found utterance. Wagner had the unconscious but inflexible hardihood to take up each art in turn, weigh it, and find it wanting. Each fell short of the whole reality in some respect. Painting leaves out motion and solidarity, sculp-

ture possesses solidarity without motion, and usually without color. Poetry without drama appeals to the senses chiefly through the imagination; in itself it has neither sound, color, nor solidarity. The spoken drama lacks the intensity which it is the unique function of musical sound to give; whilst mere pantomime, whether of dance or drama, lacks the indefinite power of sound as well as the definite suggestion of words; and, lastly, musical sound alone provokes the eternal "why?" which can only be answered by associating the emotion raised with thought, for music alone is without solidarity, color, or thought, whilst possessing motion and sound in the highest perfection.

Those who have traced Wagner's career from boyhood know how patiently he has questioned every art, how passionately he has surrendered himself to it, for a time; how willing he would have been to rest, how inexorably experience and feeling have urged him on until, like the hardy navigators of old, he broke at last into a new and undiscovered ocean.

At the age of eleven he had read Shakspeare. Surely dramatic expression of thought and feeling could go no farther. But he would test it as a form of art by experiment, and see how it worked. He immediately constructed a drama, horrible and thorough—a cross between "Hamlet" and "King Lear." Forty-two characters suffered death in the first four acts, so that in the fifth, in order to people his stage at all, most of them had to reappear as ghosts. The Shaksperian method was closely adhered to, and for several years he continued to brood over it lovingly.

Here was a form intensely individual, self-conscious—in which man explored the depths of his own nature. On that rough wooden stage of the Globe Theatre so vivid were the characters, so rapid and complex the feelings, so perfect and expressive the pantomime, that the want of stage-trappings and accessories was hardly felt. Still it was a restrained expression; it was too mosaic; the individuals lacked an universal element in which to live and move and have their being; we sit fascinated and bewildered with the subtle analysis and changing episodes; but the characters do not run up into universal types, they are too entirely absorbed by their own thoughts

and feelings. The contest here is not with Fate and Time, as on the Greek stage, but with Self and Society.

Excited but oppressed by the complex inner life of the Shaksperian drama, Wagner still felt the need of wedding the personal life to some larger ideal types, and intensifying the emotional element by the introduction of musical sound. Then the cramped wooden stage of the Globe Theatre vanished, and in its place rose the marble amphitheatre, open to the sky, embedded in the southern slope of the Athenian Acropolis.

In the classical drama nothing was individual—the whole life of Greece was there, but all was summed up in large and simple types. The actors speak through fixed masks. All fine inflexion is lost—all change of facial expression sacrificed to massive groupings and stately poses, regulated by the shrill pipe and the meagre harp. But still there is in the dramas of Æschylus, Euripides, and Sophocles a breadth of expression which enables the soul to shake itself free from its accidental surroundings and enter into general sympathy with the wider life of humanity. It is this escape into the ideal which the modern self-conscious spirit most needs: this merging of discordant self in the universal harmony which drew Wagner towards the theatre of the Greeks. There we start from the gods, the ideal representatives of human thought and emotion. Zeus is in Agamemnon, Ares in Achilles, Artemis in Iphigenia, Aphrodite in Phædra; and there is something prophetic and sublime in the spontaneous growth of these types beneath the human touch, until they transcend the gods and conquer Olympus itself. Cassandra is greater than the gods in her consciousness of injustice—Prometheus is sublime in his god-like defiance of fate—Antigone triumphs through voluntary sacrifice—it is the inexorable progress of the human conscience towards a higher Olympus, a purer deity—men come from gods, but excel the gods; then follows the inevitable decline, "the dusk of the gods," and, lastly, the assertion of man's divinity and the rehabilitation through man of the divine idea.

For what the Greek was, and for what he saw, his theatre found an almost perfect art-form. The dance or science of

pantomimic motion was part of his daily education. His body was trained in the Palæstra, or gymnasium, and his life was one of constant drill to enable him to take part in the games and national festivals. The elastic tongue of Homer had been enriched and fired by a hundred poets before the full development of the Greek drama, and hymns and songs, set to rhythmic and choral melodies of every character and variety, supplied him with ready emotional utterance upon all occasions. Add to this the profound enthusiasm which still accompanied the ancient rites, the Delphic oracles and the Eleusinian mysteries, and we have all the materials which were woven into one harmonious whole by Æschylus—poet, warrior, stage manager, and religious devotee.

The soul of the Greek drama, freed from accidental associations, must now be melted down in the new crucible. Wagner found there an intense earnestness of purpose—the devout portrayal of a few fundamental types—the large clear outline like the frieze of the Parthenon—a simple plot and well-developed phases of feeling as pronounced and trenchant as the rhythmic motions of the *dramatis personæ*; and lastly he found—what he found not in Shakspeare—the Greek chorus. This gave its binding intensity to the whole drama—this provided the universal element in which the actors lived and moved and had their being. The chorus ever in motion—a band of youths or maidens, priests or supernatural beings, fluid and expressive, like the emotions of the vast and earnest assembly;—the chorus bore aloft a wail over the agonies of Philoctetes—a plaint for Iphigenia—a questioning of the gods for Cassandra; it enveloped the stage with floods of passionate declamation; it rushed, it pointed, it swayed, it sighed and whispered in broken pathetic accents; it was like the sobbing of the sea on a rocky strand—the sound of the waves in Ionian caves—the wild rush of the tempest answering back man's passionate plaint, and fitting the simple feelings of the great types on the stage with an almost elemental intensity of expression. The mysterious variety of Greek metres, the varied spasmodic rhythms, can only be understood when the vision of the Greek chorus rises

before us in its eager bursts of appropriate, but fitful activity. That changing chant, that harsh ringing progression of notes on the Greek scales of which Gregorians are still the Christian relics—we should not call it music, it was not melody, much less harmony, but it was sound inflexions marvellously used to drill declamation, posture, and pantomime. The soul of it has transmigrated in these latter days—it has become the Wagnerian orchestra.

Turn back now, for a moment, to the Shaksperian drama. Chorus, musical sound, band, song, all the voices of universal nature environing man—appalling, consoling, inspiring him—have vanished. A new inner-world, unknown to the Greeks, has taken their place, and man is absorbed with himself. Yet without that universal voice which he can make his own, how he shrinks, dwarfed by his narrow individuality; no longer a part of the great whole and soul of things; nature no longer his mother, the winds no more his friends, the sea no more his comforter! The ideal atmosphere of the Greek chorus is missed; the power of music, however rudimentary, is absent; Shakspeare seems to have felt it; it passes over his sublime creations as an invocation to Music in "Twelfth Night," or in Ophelia's plaintive song. And this is the point of contact between the old drama of Æschylus and the new drama of Shakspeare: the two stand for ever for the opposite poles of dramatic art—the universal type, the individual life—and both are necessary. The individual is naturally evolved from the universal, but once evolved and developed it must be restored to the universal and be glorified by it.

At this crisis, in his quest after a perfect art-form, Wagner found himself confronted with Beethoven's music. He did not believe that drama could be carried farther than Æschylus, Sophocles, and Shakspeare, or music any farther than Beethoven; but he did conceive the project of leading the whole stream of the Beethovenian music into the channels of Shaksperian drama. The Greek chorus might have been adequate to the simple types of Greek tragedy, but modern life, with its self-conscious spirituality, its questions, its doubts, its hopes, and its immense aspirations—this

seemed to require quite a new element of expression. The voice of this inner life had been preparing for four hundred years, when it was ready it turned out to be no inflexible mask, through which a human voice might speak, not even a mobile chorus, but a splendid and complex organ of expression, fitted so closely about the soul of man, as to become the very Æolian harp upon which the breath of his life could freely play.

In the great world-laboratory of Art, Wagner found already all that he required. There was, as he remarked, nothing left for him to invent: the arts of poetry, music, painting, and pantomime had been explored separately and perfected; nay, one step more had been made—the arts had actually been *combined* at different times in different ways. Music with pantomime and poem by the Greeks; music with pantomime, drama, painting, and every conceivable effect of stage scenery and costume, as in modern opera; music and words, as in oratorio or the cantata. But in Greece, music was wholly undeveloped as an art; acting had never sounded the depths of individual life and expression. The Shaksperian drama left out music. The cantata and oratorio omitted pantomime and painting; whilst modern opera presented a meretricious and maimed combination of the arts resulting from a radically defective form.

With a surprising vigor of intellect, Wagner has analysed the situation, and explained exactly why he is dissatisfied with the best operatic efforts of the past, and why he seeks to supersede opera with the "musical drama."

I think his critical results may be briefly summed up thus:—In the musical drama, poetry, music, scenery, and acting are to be so blended as that each shall have its own appropriate share, and no more, as a medium of expression. The acting must not be cramped by the music, as in common opera, where a man has to stand on one toe till he has done his *roulade*, or pauses in the dead of night to shout out a song about "Hush! we shall be discovered!" when there is not a moment to spare. The music must not be spoiled for the acting, as in ballet and pantomime, where acting is overstrained to express what the sister arts of poetry and music are better fitted to

convey. And poetry, which after all supplies the definite basis and answers the inevitable "why?" must not be sacrificed, as in our opera *libretti*, to the demands of singers for *aria* and *scena*, whilst the scenery must only attempt effects and situations which can be made to look real. The object of the grand musical drama is, in fact, to present a true picture of human feeling with the utmost fulness and intensity, freed from every conventional expression by the happy union of all the arts, giving to each only what it is able to deal with—but thus dealing with everything, leaving nothing to the imagination. The Wagnerian drama completely exhausts the situation.

Filled with this magnificent conception, Wagner looked out upon the world of modern opera—and what did he see?

First, he noticed that the opera had made a false start. It sprang, not from the earnest feeling of the miracle plays, but from the indolent desire of the luxurious Italian nobles to listen to the delicious popular melodies in a refined form. The spontaneous street action (which may to this day be admired in Naples or Florence) was exchanged for a sort of drawing-room stage, and poets were hired who reset the Italian melodies, as Moore reset the Irish melodies, for ears polite. This new aristocratic mongrel art had nothing to do with the real drama. Metastasio himself was only an Italian Mr. Chorley—the very humble servant of everybody's tunes; but these tunes had to be strung together, so the *recitative*, used for centuries in church, was borrowed; then the product was naturally a little dull, so the whole had to be whipped up with a dance; hence the *ballet*, and there you have the three fixed points of the opera—*aria*, *recitative*, and *ballet*—which to this day determine the form of modern opera. Thus opera, whilst it had no connection with the real drama, did not even spring from the best musical elements. "From the prosperity of opera in Italy," says Wagner, "the art-student will date the decline of music in that country. . . . No one who has any conception of the grandeur and ineffable depth of the earlier Italian church music—Palestrina's "Stabat Mater," for instance—will ever dream of maintaining

that Italian opera can be looked upon as the legitimate daughter of that wondrous mother." *

As ear-tickling, and not truth of expression, was the chief thing, and as there was nothing much to be expressed, the *arias* got wider and wider of the words, and at last the words became mere pegs, and the music totally irrelevant—as who should dance a jig over a grave.

Gluck's reform consisted in making the operatic tunes once more true to the words, but the improvement touched the sentiment only, without reaching the defective form. In France the form was slightly redeemed by the superior *libretti* and more elaborate pantomime; whilst in Germany opera arrived as a finished foreign production, and Mozart and others had to go to Italy to learn it. "In expressing my highest admiration of the exquisite beauties of our great masters," says Wagner, "I did not detract from their fame in showing that the cause of their weaknesses lay in the faultiness of the *genre*." †

And the defect of *genre* lay chiefly in the immolation of the *libretto* to the exigencies of fixed *aria*, *scena*, and *recitative*. The drama, which has to be stretched upon that Procrustean bed, must necessarily become disjointed and lifeless in the process. Rossini retarded the progress of the musical drama for at least fifty years through the absolute triumph of melody, in the most fascinating abundance, over the resources of the orchestra and the inspirations of the poet.

"His opera," writes Edward Dannreuther, to whose pamphlet on Wagner at this season we are all so much indebted, "is like a string of beads, each bead being a glittering and intoxicating tune. Dramatic and poetic truth—all that makes a stage performance interesting—is sacrificed to tunes." Poet and musician alike had felt this. Goethe and Schiller both found the operatic form, and even the existing stage, so uncongenial that they took to writing narrative and descriptive plays not to be acted at all, and have been followed in this by Byron, Tennyson, Browning, and Swinburne. Beethoven wrote but one opera,

* Music of the Future: Letter to F. Villot, p. 10.

† Ibid., p. 22.

"Fidelio," in which the breadth of the overture or overtures seems to accuse the narrowness of the dramatic form, although the *libretto* of "Fidelio" is very good, as times go. Mendelssohn and Schumann could never find a suitable *libretto*.

The conclusion of all this is obvious. The perfect medium which was to combine the apparently unmanageable arts was yet to come, and Wagner proposed to himself the task of harnessing these fiery steeds to his triumphal car and driving them all together. He must choose his own subject, with a simple plot and a few strong passions and great situations. He must write his own drama, which, without being either orthodox verse or fixed metre, would aim in its mobile and alliterative pathos at following the varied inflexions of natural feeling. He must arrange his own scenery, perfect in detail, and within the limits of stage possibility; and finally he must compose his own music and drill his band, chorus, and characters.

To his prophetic vision the old opera form of *aria*, *scena*, and *recitative* has disappeared. The orchestra in a wondrous fashion floods the soul with an emotion appropriate to the situation. The drama itself advances unshackled by any musical exigency; the music flows on continuously, not imposing a form but taking its form from the emotion of the sentences as they follow each other. Snatches there are here and there of exquisite melody, broken up by part-singing, with a wild burst of chorus when needful to fulfil the dramatic occasion; but never must action be delayed, never must emotion be belied, never truth sacrificed: only at times, when the expressional power of words ceases, the music will fulfil, deepen, combine, and sometimes lift the drama almost out of itself. Then the spectator is raised into a sphere of ecstatic contemplation; the pageantry passes before his eyes as in a dream, whilst his soul lives and moves only in the ideal sphere of the varied and intense passions which are being played out before him.

III.

Whilst these perceptions and aims were slowly maturing in him, Wagner found

himself constantly at war with his age and his surroundings.

At sixteen, he had resolved to devote himself to music, finding in it the ineffable expression for emotions otherwise mainly inexpressible. Musical notes and intervals were to him radiant forms and flaming ministers. Mozart taught him that exquisite certainty of touch which selects exactly the right notes to express a given musical idea. Weber taught him the secret of pure melody, how to stamp with an indelible type a given character, as in the return of the Samiel motive in "Der Freyschutz;" he also perceived in that opera the superiority of legend and popular myth, as on the Greek stage, to present the universal and eternal aspects of human life in their most pronounced and ideal forms. Beethoven supplied him with the mighty orchestra, capable of holding in suspension an immense crowd of emotions, and of manipulating the interior and complex feelings with the instantaneous and infallible power of a magician's wand. Schubert taught him the freedom of song—Chopin the magic elasticity of chords—Spohr the subtle properties of the chromatic scale—and even Meyerbeer revealed to him the possibilities of stage effect through the Grand Opera. Shakspeare, Goethe, and Schiller suggested the kind of language in which such dramas as "Lohengrin" and "Rheingold" might be written; whilst Madame Schröder Devrient revealed to him what a woman might accomplish in the stage presentation of ideal passion with such a part as Elsa in "Lohengrin" or Brunhild in "Walküre." But the immediate result of this, as I have said, was not promising. Contrary to the advice of his friends, he had thrown himself, heart and soul, into the study of music as a profession. Under the Cantor Weinlig, at Leipsic, and whilst at the University, he produced an overture and symphony, which were played and not unfavorably received at the Gewandhaus; but his early work, with here and there an exceptional trait in harmony, was nothing but a pale copy of Mozart, as may be seen from a poor little piano sonata lately republished by Breitkopf.

His health now broke down. He was twenty years old (1833), and he went to

his brother, a professor of music at Wurzburg, where he stayed a year, at the end of which time he was appointed musical director at the Magdeburg theatre, where, under the combined influence of Weber and Beethoven, he produced two operas—"The Fairies" and "The Novice of Palermo,"—neither of which succeeded. He left his place in disgust, and obtained another post at the Königsberg theatre. There he married an actress,—a good creature, who, without being much to blame, does not seem to have materially increased his happiness, but who decidedly shared the opinion of his friends that the composition of "pot-boilers" was superior to the pursuit of the Ideal. The Ideal, however, haunted Wagner, and—Poverty.

In 1836 he left with Mina for Riga on the shores of the Baltic, and there, as *chef d'orchestre* at the theatre, he really appears to have enjoyed studying the operas of Mehul, Spontini, Auber, and Berlioz; for, whilst suffering what he describes as a dull, gnawing pain at the frequent irrelevance of the sentiment to the music, the nobler correspondences and beautiful inspirations gave him far-off glimpses of that musical drama to which he even now dimly aspired.

In the midst of his routine duties Bulwer's novel, "Rienzi," struck his imagination. There, as on a large and classic stage, was portrayed that eternal revolt of the human spirit against tyranny, routine, selfishness, and corruption, of which the Polish insurrection of 1831 and the Revolution of July were the modern echoes. Rienzi, a tribune of the people, dreaming of the old austere Republic, in the midst of corrupt Papal Rome—a noble heart, a powerful will at war with a brutal and vulgar age, supported, cheered by the enthusiasm of a devoted and patriotic sister—raised by a wave of popularity to the highest summit of human power, then hurled down by the Papal anathema, betrayed by a mean and cowering aristocracy, banished by the mob that had so lately hailed him as a deliverer, and at last falling by a treacherous hand upon the charred and crumbling ashes of his own homestead, the last great tribune of Rome!—here was a subject with immense outlines, full of situations in which the greatest breadth might be joined to the most de-

tailed inflexions of feeling. In it Wagner, whilst not departing avowedly from the form of the grand opera then in vogue at Paris, has in fact burst the boundaries. "Rienzi" is already the work of an independent master—it is at least prophetic of "Lohengrin" and "Tristan," whilst comparing favorably in pure melody and sensational effects with any of the current operas. What rush, triumph, aspiration about the large outlines and tramping measures of the overture—what *élan* and rugged dignity in the choruses—what elevation in Rienzi's prayer, "God of Light!"—what fervor and inexhaustible faith in the phrase, "Thou hast placed me as a pilot on a treacherous and rocky strand"—what imagery, as of vast buildings and ranged towers dimly seen athwart the dull red dawn, in the music of "Scatter the night that reigns above this city," and what chastened exaltation, free from all Italian flourish or ornament, of "Rise, thou blessed sun, and bring with thee resplendent liberty!"

But in 1839, which saw the text and the completion of the two first acts, we are far indeed from the production of "Rienzi;" it struck, however, the keynote of a most important and little-understood phase in Wagner's career—the political phase.

IV.

Wagner had left Magdeburg for Riga, but he soon came to the end of his tether there. A stupid little provincial town was not likely to become then what Wagner has made Bayreuth since—the stage for turning upside down the art-theories of the civilized world. Pushed by what he calls "despair," without money and without friends, but with that settled faith in himself which has made him independent of both until it has won both, the obscure *chef d'orchestre* resolved to go to Paris and storm the Grand Opera, then at the feet of Rossini and that strange, unscrupulous bric-à-brac composer Meyerbeer! The small vessel in which he sailed was blown about the Baltic for three weeks, put into many desolate coast-nooks, and nearly wrecked. After many hardships, shared with the rough and often starving crew, the lonely musician arrived in London (1840), with his head full of Paris and

the *Grand Opéra*, and with "Rienzi" in his carpet bag.

Whilst here he playfully seized the musical *motif* of the English people. It lay, he said, in the five consecutive ascending notes (after the first three) of "Rule Britannia:" there was expressed the whole breadth and downright bluff "go" of the British nation. He threw "Rule Britannia" into an overture, and sent it by post to Sir George Smart, then omnipotent musical professor in London; but the postage being insufficient, the MS. was not taken in, and at this moment is probably lying in some dim archive of the Post Office, "left till called for."

Crossing to Dieppe, he met the crafty and clever Meyerbeer, who instantly saw the man he had to deal with, and probably conceived in a moment that policy of apparent support and slow intrigue which made him throughout life Wagner's meanest and bitterest foe.

Wagner passed two terrible years, 1840-42, in Paris. Meyerbeer had given him introductions, and introduced him later to M. Joly, a stage director at Paris, whom he knew to be on the point of bankruptcy, and who suspended the rehearsal of the "Novice of Palermo" at the last moment. But this was but the end of a series of checks. He wrote an overture to "Faust." His good friend and faithful ally, Schlesinger, editor of the *Gazette Musicale*, got it rehearsed at the Conservatoire. It sounded quite too strange and queer to those ears polite, and was instantly snuffed out.

He submitted a *libretto*, "Love Forbidden," to a theatrical manager, but it had not a chance, and dropped. Schlesinger now employed him to write, and he wrote articles and novels, and so kept body and soul together. No one would listen to his music, but he was not a bad hack, and was hired for a few francs to arrange Halévy's "Queen of Cyprus" for the piano, and the latest tunes of Donizetti and Bellini for piano and *cornet à piston*.

At night, he stole into the Grand Opera, and there, as he tells us, felt quite certain that his own works would one day supersede the popular efforts of Rossini and Meyerbeer. He does not seem to have been dejected like a lesser soul; in what the French called his *immense orgueil*, he was sorry for their want of

appreciation, but never dreamed of altering *his* ideas to suit them. "Je me flattais," says the unpaid musical hack, "d'imposer les miennes." Meanwhile the splendid band of the Conservatoire, under Habeneck, consoled him, and on the Boulevards he often met and chatted with Auber, for whom he had a sincere respect and admiration. Auber was at least a conscientious musician of genius, who knew his business, and did not debase what was at no time a very exalted but still a legitimate branch of his art, the *opéra comique*; and besides, Auber was a *bon camarade*, and liked Wagner, probably without understanding him.

After months of drudgery, and chiefly penny-a-lining for the *Gazette Musicale*, Wagner felt the imperious necessity for a return to his own art. He took a little cottage outside Paris, hired a piano, and shut himself up. He had done for a time, at least, with the mean, frivolous, coarse world of Paris—he did not miss his friends, he did not mind his poverty. He was again on the wild Norwegian coast, beaten about with storms, and listening to the weird tales of mariners, as in broken and abrupt utterances, or with bated breath, they confided to him the legend common in one form or other to seafaring folk in all parts of the world—the legend of the Flying Dutchman. The tale sprang from the lives and adventures of those daring navigators of the fifteenth and sixteenth centuries, and reflects the desperate struggle with the elements, the insatiable thirst for the discovery of new lands athwart unknown seas; and it seems to embody for ever the avenging vision of men who, resolved to win, had so often dared and lost all.

A famous captain, mad to double the Cape of Storms, beaten back again and again, at length swears a mighty oath to persevere throughout eternity. The devil takes him at his word. The captain doubles the Cape, but is doomed to rove the seas for ever from pole to pole,—as the Wandering Jew to tread the earth,—his phantom vessel the terror of all mariners, and the dreadful herald of shipwreck. Here was a legend which needed but one inspired touch of love to make it a grand epitome of seafaring life, with its hard toils, its forlorn hopes, and its tender and ineffably sweet respite. The accursed doom of the Fly-

ing Dutchman can be lifted by human love alone. The captain, driven by an irrepressible longing for rest, must land once in seven years, and if he can find a woman who will promise to be his and remain faithful to him for one term of seven years, his trial will be over—he will be saved.

The legend thus humanized becomes the vehicle for the expression of those intense yet simple feelings and situations which popular myth, according to Wagner, has the property of condensing into universal types. Immense unhappiness, drawn by magnetic attraction to immense love, tried by heartrending doubt and uncertainty, and crowned with fidelity and triumphant love, the whole embodied in a clear, simple story, summed up in a few situations of terrible strength and inexorable truth,—such is Wagner's conception of the drama of the "Flying Dutchman," with its "damnation" motive belonging to the captain, and its "salvation" motive given to the bride—its sailor's subject—its pilot's song—its spinning-wheel home-melody—and its stormy "Ho! e ho!" chorus;—and the whole, shadowed forth in the magic and tempestuous overture, stands out as this composer's first straightforward desertion of history proper, and adoption of myth as the special medium of the new Musical Drama.

Six weeks of ceaseless labor, which to Wagner were weeks of spontaneous and joyful production, sufficed to complete the music of the "Flying Dutchman." The immediate result in Paris was ludicrous. The music was instantly judged to be absurd, and Wagner was forced to sell the *libretto*, which was handed over to a Frenchman, M. P. Fouché, who *could* write music. It appeared with that gentleman's approved setting, under the title of "Le Vaisseau Fantôme."

This was enough! No lower depth could well be reached, and Wagner was preparing to leave Paris to the tender mercies of Rossini, Meyerbeer, and M. P. Fouché, when news reached him from Germany that "Rienzi," flouted in the capital of taste, had been accepted in Berlin and Dresden!

V.

It was the spring of 1842, and it was also the rapid and wondrous turn of the

tide for Wagner. He hurried to Dresden, to find the rehearsals of "Rienzi" already advanced. The opera was produced with that singular burst of enthusiasm which greets the first appreciation of an important but long-neglected truth, and Wagner, having become the favorite of the Crown Prince, was elected Kapellmeister at Dresden, and found himself for the first time famous. Some might now have rested on their laurels, but to Wagner's imperious development "Rienzi" was already a thing of the past. He had drunk of the crystalline waters of popular myth, and was still thirsty. The "Flying Dutchman" had opened up a new world to him, more real because more exhaustive of human feelings and character than the imperfect types and broken episodes of real history. He seemed to stand where the fresh springs of inspiration welled up from a virgin soil; he listened to the child-like voices of primitive peoples, inspired from the simple heart of Nature, and babbling eternal verities without knowing it. Legend was the rough ore—the plastic element he could seize and remould, as Æschylus remoulded Prometheus, or Sophocles Œdipus, adding philosophic analysis and the rich adornments of poetic fancy and artistic form.

The legend of Tannhäuser now engrossed him. The drama was soon conceived and written. There he summed up, in a few glowing scenes, the opposition between that burst of free sensuous life at the Renaissance, and the hard, narrow ideal of Papal Christianity. Christ not only crowned with thorns, but turned into stone, is all the answer that Christianity had to give to that stormy impulse which at last poured its long pent-up torrent over Europe. The deep revolt still stares us in the face from the Italian canvases, as we look at the sensuous figures of Raphael or Titian—the free types of fair breathing life, surrounded with the hard aureole of the artificial saint, or limned as in mockery, like the dreams of a pagan world upon the walls of the Vatican.

Tannhäuser, a Thuringian knight, taking refuge with Venus, no longer the beneficent Holda, joy of gods and men, but turned by the excesses of the ascetic spirit into a malign witch, and banished to the bowels of the earth in the

Venusberg—Tannhäuser, with a touch eternally true to nature, bursting the fetters of an unruly sensual life, and sighing for a healthier activity—Tannhäuser seeing for a moment only, in the pure love of Elizabeth, the reconciliation of the senses with the spirit, a reconciliation made for ever impossible by the stupid bigotry of a false form of religion, but which is ultimately sealed and accomplished by love and death in heaven;—this is the human and sublime parable of the drama, wrought out with the fervor of a religious devotee, and epitomized in that prodigious overture wherein the dirge of the Church mingles with the free and impassioned song of the minstrel knight, and clashes wildly with the voluptuous echoes of the fatal Venusberg.

Wagner's progress was now checked by that storm of invective which burst out all over Germany—not on account of "Rienzi," but in consequence of the "Flying Dutchman," and especially of "Tannhäuser." The reason is simple. The power of "Rienzi," the audacity of its sentiment, the simplicity of its outline, and the realism of its *mise en scène*, together with a general respect for the old opera forms, ensured it a hearing which resulted in a real triumph. But in "Tannhäuser" the new path was already struck out, which singers, band, audience, critics, and composers, in a body, refused to tread—in short, *aria*, *recitative*, and *ballet* were dethroned, and suddenly found themselves servants where they had been masters.

In 1843, the "Flying Dutchman" was produced at Dresden, and failed. "Rienzi" was still revived with success. Wagner now sent the "Dutchman" and "Tannhäuser" to various theatres. The former was tried at Berlin in 1844, and failed. Spohr had the intelligence to take it up at Cassel, and wrote a friendly and appreciative letter to Wagner, but the MS. scores were, as a rule, returned by the other theatres, and the new operas seemed to react on the earlier success, for at Hamburg "Rienzi" failed.

Meanwhile, failure, together with the close sympathy of a few devoted friends, convincing him that he was more right than ever, Wagner now threw himself into the completion of that work which is perhaps on the whole his most perfect,

as it certainly is his most popular creation, "Lohengrin." The superb acting and singing of Mdles. Titiens, Nilsson, and Albani, will be fresh in the minds of many readers. The choruses in England have never yet been up to the mark, but the band under Sir Michael Costa, at its best, renders the wondrous prelude to perfection.

The whole of "Lohengrin" is in that prelude. The descent of the Knight of the Swan from the jasper shrines of the sacred palace of Montsalvat, hidden away in a distant forest land—his holy mission to rescue Elsa from her false accusers—his high and chivalric love—his dignified trouble at being urged by her to reveal his name, that insatiable feminine curiosity which wrecks the whole—the darker scenes of treachery by which Elsa is goaded to press her fatal inquiry—the magnificent climax of the first act—the sense of weird mystery that hangs about the appearance and reappearance of the swan, and the final departure of the glittering Knight of the Sangraal—allegory of heavenly devotion stooping to lift up human love and dashed with earth's bitterness in the attempt;—to those who understand the pathos, delicacy, and full intensity of the "Lohengrin" prelude, this and more will become as vivid as life and emotion can make it. "Lohengrin" in its elevation, alike in its pain, its sacrifice, and its peace, is the necessary reaction from that wreck of sensual passion and religious despair so vividly grasped in the scenes of the Venusberg, in the pilgrim chant and the wayside crucifix of "Tannhäuser."

VI.

"Lohengrin" was finished in 1847, but the political events of the next few years brought Wagner's career in Germany to an abrupt conclusion. His growing dissatisfaction with society coincided, unconsciously no doubt, with the failure of his operas after that first dawn of success. He now devoted himself to criticism and politics. He read Schopenhauer, whose pessimist philosophy did not tend to soothe his perturbed spirit; and during the next ten years, from 1847 to 1857, he spoke to the world from different places of exile in that series of political and æsthetical

pamphlets to which I have before alluded.

In 1855, owing to the earnest advocacy of M. Ferdinand Praeger, who for thirty years, through evil report and good report, has never ceased to support Wagner, the Philharmonic Society invited him over to London, and whilst here he conducted eight concerts. He was not popular: he was surprised to find that the band thought it unnecessary to rehearse, and the band was surprised that he should require so much rehearsal. But he drove the band in spite of itself, and the band hated him. They said he murdered Beethoven with his *bâton*, because of the freedom and inspiration of his readings. Mendelssohn's Scotch symphony had been deliberately crushed,—or it was the only thing that went,—according to which paper you happened to read. He did not care for the press, and he was not much surprised that the press did not care for him. The unfailing musical intelligence of the Queen and Prince Albert was the one ray of sunlight in this his second visit to our inhospitable land, but the power of the man could not be hid even from his enemies; his culture astonished the half-educated musicians by whom he was surrounded, his brilliant originality impressed even his own friends, who saw him struggling through an imperfect acquaintance with French and English to make himself understood.

Thus Wagner passed through England for a second time, leaving behind him a vague impression of power and eccentricity, the first of which the musical press did its best to kill, whilst fanning the second into a devouring flame, which swallowed up Wagner's reputation. Notwithstanding Praeger's exertions, twenty-one years flitted by, and little enough was heard of Richard Wagner in this country until, owing to the increasing agitation of a younger school of musicians, foremost among whom we must name Mr. Edward Dannreuther and Mr. Walter Bache, the "Flying Dutchman" was at last indifferently produced at Covent Garden.

In 1874 Herr Hans von Bülow, pupil of Liszt and great exponent of Wagner's music, came over, and by his wonderful playing, aided steadily by the periodical Wagnerian and Liszt concerts given by

Messrs. Dannreuther and Bache, brought about the rise of the new Wagner movement in England, which received its development in the interest occasioned by the Bayreuth Festival, and reached its climax in the Wagner Festival actively promoted by Herr Wilhelmj, and undertaken by Messrs. Hodges and Essex, in 1877, at the Albert Hall.

I have anticipated a little, because space obliges me to draw briefly to the close of this sketch. Mina, Wagner's first wife, was now dead. I cannot here tell at length how Liszt (whose daughter, Cosima von Bülow, became Wagner's second wife in 1870) labored with untiring zeal to revive Wagner's works, and how his efforts were at last crowned with success all over Germany in 1849-50. It was a popular triumph. I remember old Cipriani Potter, the friend of Beethoven, saying to me at the time when the English papers teemed with the usual twaddle about Wagner's music being intelligible only to the few, "It is all very well to talk this stuff here, but in Germany it is the people, the common people, who crowd to the theatre when 'Tannhäuser' and 'Lohengrin' are given." I have noticed the same at the Covent Garden concerts; it was always the pit and gallery who called for the Wagner nights, whilst the opera which had the great run with Carl Rosa's English Company was the "Flying Dutchman," and "Tannhäuser" and "Lohengrin" at both the other houses were invariably the crowded nights.

In 1861 the Parisians showed their taste and *chic* by whistling "Tannhäuser" off the stage.

In 1863 Wagner appeared at Vienna, Prague, Leipzig, St. Petersburg, Moscow, Pesth, and conducted concerts with brilliant success. In 1864 his constant friend, the Crown Prince, now Ludwig II. of Bavaria, summoned him to Munich, where the new operas of "Tristan" in 1865, and "Meistersinger" in 1868, "Das Rheingold" in 1869, and "Die Walküre" in 1870, were successively given with ever-increasing appreciation and applause.

The "Meistersinger," through which there runs a strongly comic vein, deals with the contrast between the old stiff forms of minstrelsy by rule and the spontaneous revolt of a free, musical,

and poetical genius, and the work *forms* a humorous and almost Shaksperian *pendant* to the great and solemn minstrelsy which fills the centre of Tannhäuser. In Wagner's opinion it is the opera most likely to find favor with an English audience, a point which we hope an English audience may soon determine for itself.

"Tristan and Iseult," in which the drama and analysis of passion—love and death—is wrought up to its highest pitch, was thrown off between the two first and two last great sections of the Tetralogie, and the Tetralogie, itself planned twenty years ago and produced at Bayreuth in 1876, stands at present as the last most daring and complete manifestation of Wagner's dramatic, poetic, and musical genius.

The purpose and power of that great cycle, of Scandinavian and German myths, unrolled in the four colossal dramas of "Rheingold," "Walküre," "Siegfried," and "Götterdämmerung," would carry me far beyond the limits of this article. Fragments only of the music can be presented in the concert-room, and these, bereft of the sister arts, must necessarily lose much of their effect. But after studying well the written drama, we may close our eyes and allow some of the Bayreuth scenes to flash once more before the mind's eye.

The elemental prelude of the "Rheingold," full of deep and slumbrous sound, wafts us away from all account of time and space. The dim grey-green depths of the Rhine alone become visible. We are aware of the deep moving of the Rhine water, and the three Undines are seen like faint shadows, swimming and singing, guardians of the Rheingold. The dark King of the Undergrounds comes climbing after them amongst the rocks, but he is scarcely visible in the gloom. Presently the Rheingold begins to brighten. A shaft of radiance strikes through the water—the Undines scream with joy; then through the whole depths of the Rhine streams an electric light, shining upon a distant rock, dimmed to softest yellow only by the water, and the famous "Rheingold! Rheingold!" wild cry of the Rhine daughters, breaks forth with the golden illumination of the Rhine depths.

Or let the curtain rise on the last fare-

well duet between Brünnhild and the god Wotan. To long drawn-out enchanting melody Brünnhild's head sinks on her father's breast—she can but sob that she has loved him dutifully, and implore him if she is to become a mortal's bride to surround her rock with fire, and bar her from all but the bravest. It is now almost dark, a faint red light lingers on the supple yet lordly form of Brünnhild. A strange languor comes over her—the god lays her gently on the rock—and waves her into her long sleep. Then he calls for the fire-god—and as he lifts his spear a burst of fire breaks out and runs round the stage—in another moment the whole background is an immense wall of rose-colored flame. To the most enchanting and dreamlike music of silver bells, harps, and flutes, the sleep of the Walküre begins—the god scales the rocks, stands for a moment in the midst of the fire, then passes through it out of sight as the curtain falls.

But, indeed, it is hard to select. The exquisite scene where Siegfried listens to the birds in the golden summer woods, and understands their language, the wild mountain rocks, and the war maidens rushing through the clouds, alighting and shouting to each other from peak to peak, or the passage of the gods over the rainbow-bridge into the halls of Walhalla, or, lastly, the death of Siegfried and the dusk of the gods;—the Albert Hall Festival will revive gleams of all these.

Long will that prodigious last scene of the "Götterdämmerung" linger in the memory of those who saw it at Bayreuth. Brünnhild draws the gold ring of the Rheingold—the cause of such grief and manifold pain—from her finger, and flings it back into the Rhine from whence it was stolen. Her black Walküre horse has been brought to her; she waves high a flaming torch, and casts it upon the bier of Siegfried. The flames rise in vast fiery columns. At that moment, in the lurid glow of the flaming pyre, the water, still flashing with moonlight behind, begins to surge up and advance upon the shore; and the Rhine daughters, singing the wildest Rhine music, are seen floating to and fro. Beyond, a ruddy light broadens until the distant sky discloses the courts of the Walhalla

in flames. With a crash like thunder, in the foreground the house of Hagen falls, and whilst the mighty conflagration flares up in the distance, the Rhine overflows to rushing music and submerges the whole stage. With this scene of unequalled dramatic splendor ends the im-

mense dramatic cycle of the "Niebelungen Ring," and, quite apart from the music, we may well be impressed with the poetical genius which has welded all these strange elements of Scandinavian and Germanic myth into such a whole.—*Contemporary Review*.

JAPANESE MINIATURE ODES.

THERE are, probably, few nations that do not point to their poetical literature as their chiefest glory. In England, in Germany, in Italy, in Greece, the national poets are by their countrymen awarded the palm over the great prose writers, while even in France itself, where, to an outsider, the distance between a Pascal and a Racine, between Voltaire as author of *Mahomet* and the *Henriade* and Voltaire as author of the *Siecle de Louis XIV.* appears like a yawning chasm, the compatriots of those writers are very loth to allow so trenchant a judgment, and would often seem, indeed, entirely reversing it, to point to the laurels of a Racine, a Corneille, and even a Boileau as the chief national title to imperishable renown.

In Japan, however, this rule does not hold. There the prose and the poetry of the classic age take equal rank in the popular appreciation, and, indeed, in countless cases it is the same men and the same women that have attained to equal celebrity both as prosaists and as poets. The foreign critic will feel disposed to re-echo this impartial judgment; for it will strike him forcibly, on perusing the classic literature of Japan, that the same faults and the same excellencies stamp all its productions (except, perhaps, the very earliest)—the same insinuating graces of style, the same love of nature, the same pathetic, and, to us Westerns, modern-seeming, tenderness, the same harping upon a few ideas, and the same absence of philosophic depth. Few tasks, indeed, could be more difficult than to have to draw any code of morals, any approach to a system of metaphysics from the writings of the poets of Japan—an admission which will appear to many Western readers to be the acknowledgment of a grave deficiency, while others, perhaps, who, in this utilitarian age, would welcome a beauti-

ful thing all the more warmly for its being useless, may be weak-minded enough to feel a certain satisfaction on learning that there is at least one literature wholly governed by the precept that delight—not instruction—should be poetry's end and aim, and that the poet's mission is fully accomplished if he leaves our minds dazzled with the graceful flights of his imagination, and our ears ringing with the most harmonious cadences. It is not, however, pretended that the great family likeness running all through the productions of the Japanese classic age, and which is but a natural result of a concentration and unity of national life almost unparalleled in the history of any other land, amounts to an absolute identity of characteristics in their various branches; nor can it be here attempted to discuss in detail the features of a whole literature. Not even an appreciation of the poetry as a whole comes within the scope of this paper. But, leaving aside the religious songs and the longer odes of the earliest ages, as well as the lyric drama of a somewhat later period, we must content ourselves with a few criticisms and illustrations of the thirty-one syllable stanzas, so well known to every student of Japanese literature under the name of "Shorter Odes," and which have not only, from the 9th century downwards, been by far the most popular form of poetical composition, both with writers and readers among the natives themselves, but are also, in the opinion of those outsiders, best qualified to pronounce on such a subject, the most characteristic of all the productions of the Japanese muse.

A poem complete in thirty-one syllables! Strangely as such an idea may strike a European, the notion of an epic in a dozen cantos would seem to these Easterns to be full as strange, and vastly more appalling; for in no other quarter

of the globe does the doctrine that "brevity is the soul of wit" find so many votaries. A prosody which knows nothing of either rhyme or assonance, alliteration, parallelism, quantity or accentual stress, may likewise appear a contradiction in terms. What then, in Japan, constitutes the difference between prose and verse, if all these distinguishing marks be missing? Well; in order that a composition may be rhythmical, the words of which it is composed must be so arranged as to fall into lines of either five or seven syllables, which lines must succeed one another in a certain order; and that order, in the thirty-one syllable odes, is 5, 7, 5, 7, 7. Also many inversions unknown in prose are permitted; plays upon words and a peculiar kind of terms called "pillow-words," are introduced for the sake of grace and euphony, and, above all, no barbarous Chinese expression must ever cross the poetic threshold. So much for the outer form, touching which, indeed, if all its minutiae were to be noticed, a sufficiently long treatise might be written by any Japanese scholar who did not pause to ask himself whether it would be ever read. What will be of wider interest is the contents of these miniature poems.

The contents are various, it need scarcely be said; for the ponderous tomes of the *Collection of a Myriad Leaves*, of the many-titled collections sometimes classed together as the *Poetical Collections of the Twenty-one Reigns*, and of all the other collections and selections which still continue to grow year by year, even under the government of his present gracious Majesty, when so much else that had appeared to be ineradicably fixed in the national affection is seen scattered to the winds and become "as a dream when one awaketh"—all these hundreds and hundreds of volumes of thirty-one syllable odes cannot but treat of a multiplicity of subjects. In most of the collections, indeed, the poems are regularly classified under various heads: first Spring, wherein the odes on the different flowers of that delightful season succeed each other in the order in which such flowers bloom—first the plum-blossom, and then the cherry, the most precious of all flowers; after that, in early summer, the wisteria, accompanied by the cuckoo, which, on the first

day of the fourth moon, takes the place left vacant by the nightingale on the preceding evening (the last evening of spring); and so on, down to the end of winter. Next comes incipient love, followed by all the other phases of the tender passion—and a large and important division this is—while elegies, travelling odes, acrostics, and odes congratulatory and miscellaneous bring up the rear. Such is, in brief, the order followed in the *Collection of Odes Ancient and Modern*, published A.D. 905, by command of the Mikado Daigo, and from which, as the most celebrated of the *Poetical Collections of the Twenty-one Reigns*, the majority of our illustrations will be drawn.

Of all the excellencies of the ancient Japanese poets, none can have a greater charm for the modern English reader than their passionate love of nature, and their tender interpretation of her mysteries—qualities which are inherited by their otherwise strictly practical descendants at the present day. Take, for instance, the following stanza:—

Softly the dew^s upon my forehead light :—
From off the oars, perchance, as feather'd
spray,
They fall, while some fair junk bends on her
way
Across the Heav'nly Stream on starlit night.

The "Heavenly Stream" is the Japanese name for that which we call the Milky Way.

Or, again, listen to the following,—one of the odes on the snow:—

When from the skies that wintry gloom
enshronds
The blossoms fall and flutter round my head,
Methinks the spring e'en now his light must
shed
O'er heav'nly lands that lie beyond the clouds.

The flowers to which the snow is here compared are those of the splendid double cherry-tree, the king of trees, whose praises these far Eastern bards are never tired of singing. One of the most celebrated of them, Narihira, even goes so far, by an extreme of rapture, as almost to curse these two lovely flowers. He exclaims:—

If earth but ceased to offer to my sight
The beauteous cherry-trees when flowering,
Ah! then, indeed, with peaceful, pure delight
Mine heart might revel in the joys of spring!

Rather far-fetched, perhaps. But then

we should remember that to one nation alone, in all the annals of literature, was it given to know exactly the limits of true taste; and that if the Japanese sometimes sin against Greek ideas of moderation, we later Europeans could scarcely venture to throw at them the first stone. Possibly, too, a tendency to exaggeration was, in Narihira's case, but a family failing. At least, we find a half-brother of his—also a grandee of the then Mikado's court—giving vent to very ridiculous sentiments at the aspect of a celebrated cascade. He says:

The roaring torrent scatters far and near
Its silv'ry drops. Oh! let me pick them up.
For when of grief I drain some day the cup,
Each will do service as a bitter tear!

From this to avowed caricature is but a step; and the poet Tadamine is himself laughing when he writes of another waterfall:

Long years, methinks, of sorrow and of care
Must have pass'd over the old fountain-head
Of the cascade; for like a silv'ry thread
It rolls adown, nor shows one jet-black hair!

It would be impossible to accuse the Japanese of want of imagination when we find them capable of so bold an idea as is contained in the following "miniature ode" on the wild geese:

What junk, impell'd by autumn's fresh'n'ing
gale,
Comes speeding t'ward me? 'Tis the wild
geese driv'n

Across the fathomless expanse of heav'n,
And lifting up their voices for a sail.

Yet it is certain that some of the most powerful aids to imagination are wanting among them; and of one of these aids in particular, the use of impersonation—which to us Europeans is naturally suggested by the genders of nouns either in our own or in kindred and well-known tongues—the Japanese are almost entirely deprived by the very different nature of their language, which does not so much as possess words answering to our "he" and "she" to distinguish a man from a woman. Death with his sickle, or Flora leading back the May, would appear to these simple-minded Orientals as queer and far-fetched a notion as would that of stationing upon bridges, and in other public places, big statues of scantily-dressed females supposed to represent Commerce and Agriculture, or Philosophy and Religion, or some such other abstract ideas. It would probably

be hard to get them at all to understand what was meant, and when they did at last understand, they would most assuredly burst out laughing. Indeed, in the whole course of his Japanese reading, the present writer does not remember to have met with more than one clear instance of impersonation. It occurs in a stanza on Old Age, which, though seemingly intended to be joking, may perhaps be thought to have in it a certain touch of pathos:

Old Age is not a friend I wish to meet;
And if some day to see me he should come,
I'd lock the door as he walk'd up the street,
And cry: "Most honor'd Sir, I'm not at home!"

To conclude, from the last few stanzas quoted, that the poets of Japan are much given to the comic, were to conclude wrongly. They are almost always serious,—too monstrously serious, perhaps, for European taste; and as for the commentators, *they* are hopelessly serious, insisting on discovering allusions where there are none, and meanings that were never meant. We read, for example, the following stanza:

With roseate hues that pierce the autumnal
haze,
The spreading dawn lights up Akashi's shore!
But the fair ship, alas! is seen no more,
An island veils it from my loving gaze;

and, as we read, the explanation that suggests itself to our untutored minds is, that the tiny ode means just what it says, and that the poet, apparently putting the words into the mouth of some high-born damsel of the Mikado's court, simply intends to represent her as watching with tender eyes the departing junk that bears her lover from her side. But no! the writings of so celebrated and so ancient a person as the author of the ode are not to be treated in this off-hand manner. All kinds of mystical interpretations are suggested: [as that, for instance, the reference is to the frank innocence of childhood, which all too soon disappears behind the rocky islands and makes shipwreck on the sands of life. Of one commentator it is reported that he pondered constantly on this stanza during the space of three years, and was at last rewarded by an insight into its secret intention. Unfortunately the outcome of his meditations has not been handed down to us.

But the elegy is, of all the forms of poetry, that in which the Japanese may most truly be said to excel, even when—by an usage which would jar on European taste, but which, in their so differently constituted language, is extremely graceful and even pathetic—they introduce plays upon words into the midst of the most serious thoughts. The poet Tsurayuki thus laments the death of a friend, who, like himself, belonged to that bright galaxy that shone in the court of Kiyoto at a time when almost all Europe was sunk in dark and hopeless barbarism:

So frail our life, perchance to-morrow's sun
May never rise for me. Ah! well-a-day!
While lasts the twilight of the sad to-day,
I'll mourn for thee, O thou beloved one!

A point which should never be forgotten is, that almost all the classical literature of Japan was written by and for a small circle of lords and ladies, princes and princesses, at the Imperial court. For if, without entering into speculations on the reason of so strange a phenomenon—less strange to one who should adopt the theory of an original distinction of race between the nobles and the plebeians of Japan—if we keep this fact in mind, we shall have a key to the interpretation of most of the characteristics of a highly peculiar literature. Where, indeed, if not in the ante-chambers of a court, should verbal harmony and all the softer graces of style be pursued to a degree showing that manner more than matter is held to be the one thing needful to poet and prosaist alike? Under what other circumstances should we be more likely to find piquancy take the place of profundity, and sentiment the place of passion? For the high-born poets who passed from one vice-royalty to another, and for the poetesses who, in damask and brocade, spent their days amid the magnificence of the palace of the "Son of Heaven," few circumstances could arise which might have made them able to fathom the depths of the human heart or have brought them face to face with those moral problems that must suggest themselves to such as, conscious of right-doing in themselves, yet have to fight an unequal battle with all the evil powers of the world. The, in Japan, all but preponderating influence of women was

also thrown into the scale; at least it may, we trust (even in our days, when this has become rather a delicate subject), be permitted us to hold that female writers are more likely to abound in subtle graces than in vigor and in philosophic depth.

Here are a few more miscellaneous examples of "miniature odes:"

REPROACH ADDRESSED TO THE NIGHTINGALES.

Whom would your cries, with artful calumny,
Accuse of scatt'ring the pale cherry-flow'rs?
'Tis your own pinions flitting through these
bow'rs
That raise the gust which makes them fall
and die!

UNREQUITED LOVE.

A youth once loved me, and his love I
spurned.
But see the vengeance of the pow'rs above
On cold indifference: now 'tis I that love,
And my young love, alas! is not return'd.

LOVE.

Now hid from sight are great Mount Fusi's
fires.
Mount Fusi, said I? 'Tis myself I mean!
For the word *Fusi* signifies, I ween,
Few see the constant flame of my desires.*

THE LOTUS.

O lotus leaf! I dreamt that the wide earth
Held nought more pure than thou, held
nought more true.
Why, then, when on thee rolls a drop of dew,
Pretend that 'tis a gem of priceless worth?

Of the Buddhist bishop Henjō, writer of the above stanza, the justly celebrated author of the preface to the *Collection of Odes Ancient and Modern*, says: "The bishop was a skilful versifier, but in real feeling he was lacking: I might liken him to one that should conceive an artificial passion for the mere painted semblance of a maiden." Of the already quoted poet Narihira, it is said in the same place: "His stanzas are so pregnant with meaning, that the words suffice not to express it. He is like a closed flower that hath lost her color, but whose fragrance yet remaineth." Here is another sample of his obscure style:—

E'en when on earth the thundering gods held
sway
Was such a sight beheld? Calm Tats'ta's
flood,
Stain'd, as by China's art, with hues of blood,
Rolls o'er the peaceful moors and fields away.

* This stanza is necessarily rather an imitation of the original than a translation of it.

The allusion is to the crimson and scarlet of the autumn maples.

But we must not go on quoting for ever—if, indeed, quoting it can be called, where, in the place of the originals which the translator so much delights in reading, those he writes for are reduced to reading the translator. A few words in conclusion. If a moral, a lesson must perforce be drawn from the works of the classic poets of Japan, it might, perhaps, be formulated in three simple words: "Life is brief." Life is brief. Let us make the best of it; for we know not what comes after, nor if anything comes after. Let us pluck the flowers of spring before they fade; let us hark to the note of the cuckoo, as, in the reddening summer dawn, his shadow flits for an instant across the face of the sinking moon; let us love; let us be merry—not wildly or grossly, like the fool of Scripture, but with all comeliness and grace, as befits high-born and cultivated men and maidens. From those that are dominated by such an ever-present idea—albeit that it is less often proclaimed than understood—sadness cannot long be absent: hence the power of their elegies, and the tender grace of their conception of nature. For, be it observed, in ages of faith natural beauties are but little understood or appreciated. How, indeed, can they be greatly valued by men who look upon them as snares and hindrances, turning away the soul from the contemplation of higher and worthier objects? and the remark that it is only in these latter days of lukewarm conviction that we Europeans have really begun to enter into the meaning of outward nature is a trite one. Love nature, love life and enjoy it, would seem to be the burden of the songs of the poets of Japan; but yet they never can forget how soon the life to which they so greatly hold will end, how soon the natural beauties they so dearly prize will—for each one, at least—pass hopelessly away. One of the poets of the eighth century has expressed this in a more direct, as well as in a more graceful manner than any of his compeers. Writing, as he did, just before the time when the "shorter odes" of which we have been treating became almost the sole recognised form of poetical composition, his poem, which is a much longer one, does not strictly belong to the sub-

ject of this paper. But it so exactly reproduces that idea which may be called the fundamental idea of Japanese poetry, that we think our readers will not quarrel with us for quoting it. There is a short prose superscription which runs thus:—

Easy to accumulate and hard to avoid are the eight greater tribulations. Hard to obtain and easy to exhaust are the joys of an hundred years. What the ancients deplored, I too have now reason to lament, and have therefore composed this ode to give vent to my grief at the turning grey of my hairs:—

ODE ON THE UNSATISFACTORINESS OF LIFE.

Proem.

'Twere idle to complain,
Or think to stem unvarying nature's course,
And backward to its source
Turn the swift torrent of the years again,
That, with resistless force,
Rolls down with age and sorrow in its train.

Strophe.

Lo! where the virgin choirs are playing,
As tender virgins may best,
When, hand in hand, they go a-maying,
And through the merry dance they flit:
Bracelets of gems and gold
Around their arms are roll'd;
And, lightly, sleeve in sleeve entwin'd,
What time the tender virgins go a-maying,
Their crimson robes all carelessly are swaying
As breathes the listless wind.
But eager time cannot be staying:
Their beauty loses its delight;
Already through their locks come straying
Pale threads of silv'ry white;
Already do the wrinkles furrow
The features erst so blithe and gay,
And fades the smile which seem'd to borrow
The sweetness of the flowers of May:
Such is, alas! dread time's inevitable away!

Antistrophe.

Behold the martial youth advancing,
As martial youth may well besem,
In coat of mail, with sabre glancing,
And arrows that as hoar-frost gleam!
There, on the grassy mead,
Over his chestnut steed
He flings a cloth of leopard-hide,
And to the castle hies him gaily prancing,
Where dwells a lovely maiden soul entrancing,—
His own, his own sweet bride;
Then gently knocks, and, round him glancing,
Throws back the door, and clasps her tight
And she, too, clasps his hands, enhancing
The rapture of that night.
Vain fleeting dream! With none to guide him,

a grand bath: singularly this was the only occasion he was ever known to take his stick from its place without a particular invitation. Certainly he understood.

And he read character to a marvel, measuring each member of the household, understanding what he could, and what he could not, do with each. With those who could master him, he never held out uselessly, but yielded with a peculiar grace, quite his own; with those who could not, why he mastered them! Not overbearingly, but impudently; and when requested by them to do anything disagreeable to him, would wag his tail as much as to say, "I'm not in a mind to, and I know you won't make me."

They even laughed and said he understood the politics of the family, and from his amusing aversion to negroes one would suppose so, as he could never abide the sight of that African race. One night a colored man being sent to the house with some ice-cream, shrieks and a general sound of rumpus brought us all to the kitchen, where Cap had half torn the clothes off the man, who, with rolling whites, now stood petrified and livid with fright; Cap making fresh plunges, carrying off pieces of clothing each time. Indeed, it was almost impossible to take the dog off, so inveterate was his hatred. The servants, on being questioned, said the man had done nothing. But never did he see one of this race, even in the street, without hot pursuit.

This was in the war time, when Fort Warren was hung over our heads—so much for his pluck and party principles!

Beggars he looked on with a suspicious eye, and always watched closely, but never molested.

Little dogs were treated by him with contempt—not noticing their presence, or even insults, at first; but if too persistent and intolerable, he would give them a sound shaking, and throwing them over, would look off into space—quite unconscious—an expression inimitable, I assure you. In general he did not affect dog company; carrying himself with a grand air and great dignity, he would look at them and pass on. Perhaps a sense of superior intelligence caused this *hauteur*, more probably family pride; for mark you, Cap was nephew to the Prince of Wales's dog, the

Prince, while in this country, having had the finest specimen of a Newfoundland in the provinces presented to him. Whatever evolutions of thought Cap may have had, the fact is the same.

When a child, I had a severe typhoid fever, and every morning Cap was sent with a note tied to his collar with tidings of my welfare to my grandmother. Nothing could distract him on such an errand; but, when arrived at the house, he would go straight and lay his head in her lap till the note was untied. Then, considering his duty done he would go to the kitchen, be fed, and inspect the dinner—to which he always returned, if to his mind; but if it was to be of poultry, or game of any kind, they saw him no more that day. My father bought Cap when a pup for us children to play with, and great fun we had. As we grew older he came into the house with us, our constant companion, my own especial friend and confidant. I told him everything, and he never peached. Thus constantly with us, and talked to, he learned to understand all that was said, whether directly addressed to him or not; and the following story is strictly true, incredible as it may seem.

My father and mother were reading, and one of them, noticing an article about water standing in a room over night absorbing impure gases, and being unhealthy to drink, read it aloud, and remarked, "If that's the case, we must be sure and see that Cap's water is changed every morning." He had water always in mother's dressing-room, where he went and drank when he liked. Cap lay on the floor, apparently unobservant. The next day he went to a member of the family and asked for water; he had a peculiar way of asking for different things, so that those who knew him could tell his wants. She went to the dressing-room, and there was plenty of water. Cap looked at it, languidly tasted, and then looked up, thinking something must be the matter; it was turned away, and fresh water given him, which he drank. The next day the same thing occurred, and the next after, so as to be remarked, and an explanation asked, when the foregoing conversation was recalled; and never till the day of his death, three years later, did he touch a drop of water without having first seen it poured freshly

out, though never before had he thought of objecting.

Captain slept in the house at night, on the broad flat landing where the stairs turned, thus having full view and command of everything; the doors were all left open, and every morning at about five he would go and put his nose in my father's hand and wake him up, apparently to tell him the night was safely past; being patted, and "All right Cap" said, he would go down, having completed his vigil, to await the first appearance of a servant, to let him out for his morning walk, which was usually short. Just before going to bed he also took a walk, which was not so sure to be short, if the night was pleasant—unless requested to return soon; he would then come back almost immediately. Whenever my father went away, he would lie at the foot of my mother's bed, realising there was a change, and that she needed protection.

He was essentially companionable, and could not tolerate being left alone,—not that I think he had sins to think of that made him unhappy, but he loved company, and would follow me miles on a walk; and it was on one of these walks, when I was older and alas! he too, that his first signs of advancing age showed themselves. The day was very warm, and Cap accompanied me to take a lesson some distance out of town. During the lesson he asked for water, which when brought he could scarcely reach, his hind legs being almost powerless. His endeavors to walk were most agonizing; he looking to me uncomprehending the cause, and asking for help. After a while he was better, and I started to walk home with him, there being no carriage or other conveyance obtainable in the place. We had gone but a short distance when Cap again wanted water, and I stopped at the country grocery store to get some. They brought it from the back of the store, but he could not drink, and lay down quite overcome. My own misery was intense, for I thought him dying. There was the usual gathering of a corner store, who all tried to console me with accounts of their dogs. One voluble Yankee told of his. "The little black one with white spots, you knowed him, you know!" I suppose I looked a little blank, for he said: "Any-

how, Jim did!" turning to the store-keeper for corroboration. "Wall, he got a-foul a toad one day, and was just so. He'll come out on it all right." Every one stopped who passed, till quite a crowd collected, each one with his own theory. In time a teamster with his dray loaded with lumber was passing, whom I hailed, told the necessities of the case, and he consented to unload his timber by the side of the road and take Cap home. The timber being taken off and Captain put in its place, the teamster started. Cap began to try to wriggle himself off the dray, not liking the distance between him and me on the side walk. He would have infallibly fallen off between the wheels, so the man stopped—it was no go. I then got on and he made no further objection, so we journeyed into town, I holding an umbrella over his head, little thinking of the figure I cut!

When arrived at home, the veterinary surgeon was called, but not being able to attend immediately, father thinking Cap poisoned, applied all sorts of known antidotes. Among others, oil was poured down his throat, and in the resistance he bit my father—not viciously, but naturally, for who does not remember the days when some one held our noses, and another some one poured the detested castor oil down, and what vigorous remonstrances we made? When the surgeon came, he pronounced it a slight attack of paralysis, and we knew we should not have Cap much longer. He recovered though, and went about for a time as usual.

The garden was a delight to him, filled with fruit and flowers. One would think he really had a sense of the beautiful to see him stop at a rose bush and contemplate it. Indeed he did his best to keep things in order by not running across lots, but always in the paths with the utmost propriety. Fruit of all kinds he liked, especially gooseberries, which he picked for himself with great care, holding up his lips and turning his head under the branch, then carefully pulling them off one by one. But if any one was in the garden, not he! That must be done for him. He would follow me from bush to bush, and if by chance I was more greedy than he thought proper, would get up, nudge me, and lie down again, remind-

ing me of his presence, and that he must have his share.

In January of 1872 one evening Cap had gone for his walk; my sister passing through the hall heard a faint rap, and going to the door, Cap came in and up stairs. Noticing something strange in his walk, she called father, who came out of the library and spoke. Cap hearing his voice, ran to the stairs, and on attempting to descend fell headlong, and only stopped at the landing. We all

knew what was the matter. Going up stairs my father put his arms under him, I behind, and we brought him down. There he lay, and could not bear to have us leave him, growing worse all the time, but responding to our caresses by a wag of the tail—less and less—till the very last, when only an inch moved; the rest of the body being quite stiff and rigid, and as the day left us, so did Captain.—*Macmillan's Magazine.*

DRESDEN CHINA AND ITS MANUFACTORY AT MEISSEN, SAXONY.

To most people the very name of "Dresden china" has a magical charm; and though "old Dresden" is supposed by some people to be priceless and the thing to have, while "modern Dresden" is held to be of small account, we confess we were delighted to find that the manufactory at Meissen, where all Dresden china is made, was only one hour by rail from Dresden, where we were; that it was the easiest thing in the world to go and see it; and that an enthusiastic German friend—a connoisseur in china—was not only willing but charmed to accompany us.

The town of Meissen is a quaint, but not very interesting, old town built on a hill, with a castle and cathedral joined together at its summit; and as the train arrived at Meissen at twelve, and we were advised to be at the manufactory at two (when the workmen resume work after dinner), we spent the intervening time, first in eating a very indifferent and greasy luncheon under the shade of some oleanders in front of the best hotel, and then, in climbing an exceedingly steep street, and in going to the cathedral and castle.

Both buildings are extremely plain, and have no pretensions of any kind to their names. The castle, dark and old, with endless storeys and innumerable windows, gained a certain liveliness of appearance from being used as a barrack; and as the day was hot, every window was filled with lounging, smoking, little Saxon soldiers evidently enjoying themselves.

The cathedral consists of one aisle; its one picture was being "restored;" but on either side of the altar were some

very coarsely painted plaster figures representing Saxon sovereigns, with gilt crowns, and what, it must be confessed, appeared to us a very diabolical grin on their red faces.

We asked for the recess where the flames of purgatory are said to be heard, and putting in our heads we heard a peculiar and melancholy noise, made by the wind. One could quite understand a little imagination and ignorance converting this sound into the roaring of flames. Our guide said, very gravely, that when the wind was high the noise was "truly terrifying."

From the platform outside, the view is very extensive and pretty, with the Elbe winding along as far as the eye could see; in one direction the blue hills of Saxon Switzerland broke the line of the horizon, and the flat and uninteresting country between Meissen and Dresden gained all that enchantment which distance is supposed to lend.

Two o'clock found us in a suburb of Meissen, and in front of the large and substantial building which is the manufactory, and which looks much more like an overgrown German country-house. There is a great deal of building behind it, and it covers altogether a large space of ground.

On entering we went into the huge show-rooms down-stairs to wait for the guide, for whose services we each paid one mark (about one shilling).

These rooms contained an enormous amount of china of every description. From floor to ceiling, shelves, tables, and wide counters (not to speak of the floor itself) were loaded with articles, from the most fragile and costly tea-cups to

huge animals; and ranging in price from small salt-spoons price sixpence, to vases and candelabras valued at many hundred pounds. Judging from what we saw, his Majesty of Saxony must find china pay. Our guide arrived, and we went with him first through the buildings on the ground-floor to see everything from the beginning. The clay from which the china derives its fineness and delicacy is found about an hour's journey from Meissen. When it arrives it is sifted and pulverised several times till nothing but the finest and purest part remains; in this state it looks like very fine flour with a slightly yellow tinge. It is then mixed with *feldspatz* (a kind of flint)—which is ground to powder—gypsum, and water, made into huge balls, and kept in zinc-lined boxes, to be served out as occasion requires.

There was nothing in the moulding of the commoner forms, or in the whirling of plates and bowls, &c., in any way differing from the ordinary method pursued in every china manufactory in this country, and this is therefore not worth describing. In a very long gallery—round two sides of a square, and into which opened the various work-rooms—we saw the most extraordinary collection of moulds,—bodies guiltless of heads, legs, or arms; right legs, left legs, with and without shoes; birds, animals, and fishes,—ready to be filled at will.

In a large and well-lighted room sat a perfect army of workmen, to whom the contents of these moulds were given, after one baking, and while the clay is still plastic. Taking a body, they joined arms and legs and head with inconceivable rapidity, passing a camel's-hair brush dipped in water to make the members stick on. With small agate tools each began to bring these moulded figures to perfection. The workman gave the eyes expression; he deepened an eyelid, softened the cheek, rounded an arm, marked the finger-nails, patted it on one side, then on the other, till it stood before us a shepherdess complete. Nothing was more marvellous than the gentleness and dexterity with which the fragile thing was handled, and the wonderful quickness with which he manipulated each smallest detail.

Next to this room in point of interest was the one where the raised fruits and

flowers are made and arranged on each vase or jug or basket.

There is no moulding here. The most delicate leaves are rolled at the point of the accomplished fingers; leaf is added to leaf, every bit of the smallest rose is curled, patted into shape, and stuck into its place, till it grows before you into a perfect rose. The tiniest petal of each diminutive forget-me-not is made by itself and put in its place by the aid of daintily-held pincers, that might belong to fairy-land. The miniature flowers on the lap of a dancing-girl are all made in the same way: and seeing the time taken, and the care required, it made one understand why "raised china" cost so much.

The perforated edges of plates and baskets are marked in the moulds, and cut out with a penknife afterwards, then carefully rounded and smoothed by the inevitable agate tools. Indeed in all cases the mould gives the forms very roughly, and much more skilled labor is required than we had imagined—850 people being the regular staff, which does not include artists, sometimes specially engaged to undertake the painting of particular orders.

When the china is ready, it is taken to be baked again, then glazed, then painted, then baked again, in some cases being baked no less than six times, and breaking to pieces in the sixth baking. These accidents, however, are much less frequent than formerly, as the degree and distribution of heat are all much better understood now.

The ovens are built in circular chambers, and we stood in the centre of one, finding the heat less than we had expected. All round were recesses, in which trays of lovely china were placed; and in the lower, and, as we supposed, the hottest ovens, moulds (looking in their closed form exactly like so many Stilton cheeses of all sizes) were deposited. The apparently careless way in which the workmen moved about with tray-loads of exquisite china made one a little breathless—no baker's boy, with a batch of rolls, could have looked less anxious than they did; but we were assured that an accident hardly ever occurs; and the china after one baking is so brittle, that on my admiring a basket, and wishing in my ignorance to buy

one, the superintendent, with a smile of superiority, put it into my hands where it crumbled to bits immediately.

The only part of the manufacture they would not explain thoroughly was the glazing-tub, into which everything is dipped; and our German friend said that some improvement in this glaze or enamel is thought to be a secret.

When the glaze is hard, the china is taken to the various painting-rooms; and as most people in these days know, the colors then are but dingy and often false to their after-appearance, the gold, which is a dull dark brown on going into the oven, comes out looking much the same, and the china is then taken to the burnishing-room, where a great many women and girls sit with agate tools of various shapes, and quick friction turns this dark and dusky brown to gold that glitters. In the room devoted to the finest painting, we were introduced to an old Frenchman, with two pairs of spectacles on. He was celebrated for his child figures, and was painting groups in the centres of a set of dessert-plates, ordered by one of the Imperial family of Prussia. Children guiltless of clothes were swimming, bathing, making flower-wreaths, riding goats, catching butterflies, &c.

Each group was different, and the grace and beauty of the figures were perfectly wonderful. He had painted there for years, but had never learned German; he had never tried, he said, with a little shrug. He also told us he seldom painted flowers. "Any one can do that," he said, with a fine sense of his own unrivalled talent; but looking at the flowers, we could not agree with him. It is not given to "any one" to paint such flowers.

The blue and white china, called *par excellence* "Meissen china," is of course also made here. The difference between it and Dresden china consists in its being painted in cobalt *before* it is glazed, and it is not baked so often.

Besides the reproduction of beautiful old shapes in the finest clay, this Meissen china is made more coarsely and strongly in commoner shapes, when it is much cheaper and very strong. It is also hand-painted, but is very quickly done, by means of a perforated paper laid over

plate or cup, when powdered cobalt is shaken over it, out of a thing exactly like a small pepper-box. This leaves the pattern marked, and lads, with a fine brush and a little water, stipple in the color. It is then baked and glazed. Some of the old shapes with perforated edges were quite beautiful.

When the china is examined by the superintendent, and he considers it perfect, he affixes on every piece the well-known crossed swords before the last baking. Every bit with the slightest imperfection in pattern, shape, or transparency, is marked imperfect, and sold for less than half-price either at the manufactory, or, more frequently, at a small shop in Dresden near the Frauen Kirche, which goes by the name of "the rejected shop."

This mark of imperfection is simply a small white line drawn through the crossed swords.

The perfect china is finally put on the list, and passes on to the packing-case or to the show-rooms.

There was something, apart from the prettiness of the manufacture, that was very taking. The quantity of light, the great space and cleanliness, the ventilation of all the rooms, and the well-to-do look of the "hands," gave one a very cheerful impression. The wages were good—half-a-crown a-day being the lowest to ordinary hands (young lads and girls), and £3 a-week and upwards to those with any particular skill. As in the buildings in Saxony many Italians are employed, so in this factory many Italians sat. The three best flower-makers were Italians; and their long dark hair, flashing eyes, and peculiar slender fingers, formed a strong contrast to the type of their Saxon neighbors.

When at length we drove away, we had the unusual and comfortable feeling of having seen a beautiful art produced under the happiest conditions, instead of having, as is sometimes the case, to pity the work-people, and to regret that hard necessity compels one portion of humanity to injure their constitutions in order to supply the other portion with articles either of use or ornament.—*Blackwood's Magazine*.

VITAL FORCE.

THOUGH we have not the slightest conception of what life is in itself, and consequently could not define it, we may, for the sake of convenience, think of it in this paper as some kind of force.

'In the wonderful story,' says Professor Huxley in his *Lay Sermons*, 'of the *Peau de Chagrin*, the hero becomes possessed of a magical wild ass's skin, which yields him the means of gratifying all his wishes. But its surface represents the duration of the proprietor's life; and for every satisfied desire, the skin shrinks in proportion to the intensity of fruition, until at length life and the last handbreadth of the *peau de chagrin* disappear with the gratification of a last wish. Protoplasm or the physical basis of life is a veritable *peau de chagrin*, and for every vital act it is somewhat the smaller. All work implies waste, and the work of life results, directly or indirectly, in the waste of protoplasm. Every word uttered by a speaker costs him some physical loss; and in the strictest sense, he burns that others may have light—so much eloquence, so much of his body resolved into carbonic acid, water, and urea. It is clear that this process of expenditure cannot go on for ever. But happily, the protoplasmic *peau de chagrin* differs in its capacity of being repaired and brought back to its full size, after every exertion. For example, this present lecture is conceivably expressible by the number of grains of protoplasm and other bodily substance wasted in maintaining my vital processes during its delivery. My *peau de chagrin* will be distinctly smaller at the end of the discourse than it was at the beginning. By and by I shall have recourse to the substance commonly called mutton, for the purpose of stretching it back to its original size.'

This explanation may be very philosophical, but it is only a roundabout way of saying that, within reasonable bounds, we can recover the effects of exhaustion by proper food and rest; which, as a fact, people are pretty well acquainted with. The error to be avoided is, in any shape to make such a pull on the constitution as to be beyond the reach of recovery. Life-force, or call it proto-

plasm, is an inherent quantity not to be heedlessly wasted; and this truth becomes more apparent the older we grow. Why is one man greater, in the sense of being more powerful than another? Because he knows how to get out of himself a greater amount of work with less waste of life-force.

We see from experience that the more men have to do the more they can do. And this paradox is only reasonable, for it is the necessity of great work that forces upon us systematic habits, and teaches us to economise the power that is in us. With the cares of an empire on their shoulders, prime-ministers can make time to write novels, Homeric studies, anti-papal pamphlets. It is the busy-idle man who never loses an opportunity of assuring you that 'he has not a moment in the day to himself, and that really he has no time to look round him.' Of course idle people have no time to spare, because they have never learned how to save the odd minutes of the day, and because their vital energy is expended in fuss rather than in work.

'He hath no leisure,' says George Herbert, 'who useth it not;' that is to say, he who does not save time for his work when he can, is always in a hurry. One of the most sublime conceptions of the Deity we can form is that He is never idle, and never in a hurry.

The following words from a newspaper description of the sublime calmness of power manifested by the huge hydraulic crane used to lift Fraser's celebrated eighty-one ton gun, we take as our type of the powerful man who knows how to economise his vital force instead of wasting it by fussing: 'Is there not something sublime in a hydraulic crane which lifts a Titanic engine of destruction weighing eighty-one tons to a considerable height above the pier, with as noiseless a calm and as much absence of apparent stress or strain as if it had been a boy-soldier's pop-gun? When we further read of the hydraulic monster holding up its terrible burden motionless in mid-air until it is photographed, and then lowering it gently and quietly on a sort of extemporised cradle without the least appearance

of difficulty, one can readily understand that the mental impression produced on the bystanders must have been so solemn as to manifest itself in most eloquent silence. With the same freedom from excitement and difficulty does the strong man who saves his force for worthy objects, raise up morally and physically depressed nations, take cities, or what is harder to do still, rule his own spirit. It is the fashion nowadays to say that people are killed or turned into lunatics by overwork, and no doubt there is much truth in the complaint. Nevertheless it would seem that vital force is wasted almost as much by the idle man as by him who overworks himself at high-pressure for the purpose of 'getting on.' It is indolence which exhausts, by allowing the entrance of fretful thoughts into the mind; not action, in which there is health and pleasure. We never knew a man without a profession who did not seem always to be busy. It may be he was occupied in worrying about the dinner or the place where he should spend his holiday—which he did not work for—in correcting his wife, in inventing pleasures, and abusing them when found, in turning the house upside down by doing little jobs foolishly supposed to be useful. And women too, when stretched on the rack of a too-easy chair, are they not forced to confess that there is as much vital force required to enable them to endure the 'pains and penalties of idleness,' as would, if rightly directed, render them useful, and therefore happy? The fact is there are far more who die of selfishness and idleness than of overwork, for where men break down by overwork it is generally from not taking care to order their lives and obey the physical laws of health.

Let us consider a few of the many ways in which we waste the stuff that life is made of. It has been well said that 'the habit of looking on the bright side of things is worth far more than a thousand pounds a year;' and certainly it is a habit that must add many years to the lives of those who acquire it. Really every fit of despondency and every rage take so much out of us, that any one who indulges in either without a great struggle to prevent himself doing so should be characterised as little less than—to use an American expression—

'a fearful fool.' How silly it seems even to ourselves after cooling, to have acquired a nervous headache, and to have become generally done up, stamping round the room and shewing other signs of foolish anger, because the dinner was five minutes late, or because some one's respect for us did not quite rise to the high standard measured by our egotism! As if it were not far more important that we should save our vital energy, and not get into a rage, than that the dinner should be served exactly to the moment.

One day a friend of Lord Palmerston asked him when he considered a man to be in the prime of life; his immediate reply was 'Seventy-nine. But,' he added with a playful smile, 'as I have just entered my eightieth year, perhaps I am myself a little past it!' How is it that such men work on vigorously to the end? Because they treasure their ever-diminishing vital force. They studiously refrain from making a pull on the constitution. Reaching the borders of seventy years of age, they as good as say to themselves: 'We must now take care what we are about.' Of course, they make sacrifices, avoid a number of treacherous gaieties, and living simply, they perhaps give some cause of offence, for the world does not approve of singularity. But let those laugh who win. They hold the censorious observations of critics in derision, and maintain the even tenor of their way. In other words, they conserve their vital force, and try to keep above ground as long as possible. Blustering natures forgetful of the great truth, that 'power itself hath not one-half the might of gentleness,' miss the ends for which they strive just because the force that is in them is not properly economised.

Then as regards temper: any man who allows that to master him wastes as much energy as would enable him to remove the cause of anger or overcome an opponent. The little boy of eight years old who in the country is often seen driving a team of four immense dray-horses, is one of the innumerable instances of the power of reason over mere brute-force, which should induce violent tempers to become calm from policy, if from no higher motive.

Many people squander their life's energy by not living enough in the present.

They enjoy themselves badly and work badly, because they are either regretting mistakes committed in the past, or anticipating future sorrows. Now, certainly no waste of force is so foolish as this, because if our mistakes are curable, the same energy would counteract their bad effects as we expend in regretting; and if they are incurable, why think any more about them? None but a child cries over spilt milk. The mischief is done, and let it be forgotten, only taking care for the future. Sometimes people keep fretting about troubles that may never take place, and spend life's energy on absolutely nothing. Real worry from Torturations of various sorts is quite enough, and causes a greater draught on our vital force than hard work. Let us not, therefore, aggravate matters by anticipations of troubles that are little better than visionary.

In looking ahead, it is of immense importance not to enter into any transaction in which there are wild risks of cruel disaster. There we touch on the grand worry of the age. A violent haste to get rich! Who shall say how much the unnaturally rapid heart-beats with which rash speculators in shares in highly varnished but extremely doubtful undertakings receive telegraphic messages of bad or good fortune, must use up their life's force? Hearts beating themselves to death! Rushing to trains, jumping upstairs, eating too fast, going to work before digestion has been completed—these are habits acquired naturally in days when it is the fashion to live at high-pressure; but such habits are surely not unavoidable, and would be avoided if we thoroughly valued our vital force.

There are persons of a nervous temperament who seem to be always upon wires. Nature has given them energy; but their physique is in many cases inadequate to supply the demands made upon it. The steam is there, but the boiler is too weak. Duke d'Alva, according to Fuller, must have been of this nature. 'He was one of a lean body and visage, as if his eager soul, biting for anger at the clog of his body, desired to fret a passage through it.' The same thought was wittily expressed by Sydney Smith when he exclaimed: 'Why, look there, at Jeffrey; and there is my little friend —, who has not body enough to cover his

mind decently with; his intellect is improperly exposed.' Now these are just the sort of people who should not kill themselves, for though wrapped in small parcels, they are good goods. They owe it as a duty to themselves and others not to allow their fiery souls 'to fret their pygmy bodies to decay'—not to throw too much zeal into trifles, in order that they may have a supply of life-force for things important. He who desires to wear well must take for his motto 'Nothing in excess.' Such a one, as we have had occasion more than once to urge, avoids dinners of many courses, goes to bed before twelve o'clock, and does not devote his energy to the endurance of overheated assemblies. When young men around him have got athletics on the brain, he keeps his head and health by exercising only moderately. He is not ambitious of being in another's place, but tries quietly to adorn his own. 'Give me innocence; make others great!' When others are killing themselves to get money, and to get it quickly, that with it they may make a show, he prays the prayer of Agur: 'Give me neither poverty nor riches,' for he thinks more of the substance than of the shadow. This is the truly wise and successful man, and to him shall be given, by the Divine laws of nature, riches (that is, contentment) and honor (that is, self-respect), and a long life, because he did not waste the steam by which the machine was worked. In homely proverb, he 'kept his breath to cool his porridge,' and most probably was a disciple of Izaak Walton.

At this point, perhaps the secret thoughts of some who have not yet learned how 'it is altogether a serious matter to be alive,' may take this shape. 'What after all,' they may ask, 'is the good of economising life's force? Often I hardly know what to do with myself, nor have I much purpose in life beyond eating, drinking, and sleeping.' To such thoughts we should give somewhat of the following answer: There is a work for every single person in the world, and his happiness as well as his duty lies in doing that work well. This is a consideration which should communicate a zest to our feelings about life. We should rejoice, as experience teaches us that each of us has the means of being

useful, and thus of being happy. None is left out, however humble may be our position and limited our faculties, for we all can do our best; and though success may not be ours, it is enough if we have deserved it. Certainly if there be any purpose in the universe, a day will come when we shall all have to answer such questions as these: 'You were given a certain amount of life-force; what have you done with it? Where are your

works? Did you try to make the little corner in which you were placed happier and better than it was before you came into it?' It is said that Queen Elizabeth when dying exclaimed: 'My kingdom for a moment;' and one day we shall all think nothing so valuable as the smallest amount of that force without which we cannot live.—*Chambers' Journal*.

THE MELANCHOLY OCEAN.

"Far off, amid the melancholy main."—MILTON.

"Inhabiting an island washed by a melancholy ocean."—*Vivian Grey*.

Oh! the salt Atlantic breezes,
How they sweep reviving through me;
How their freshening spirit seizes
Soul and sense, to raise, renew me!

Oh! the grand Atlantic surges,
How they march, and mount, and mingle;
How their spray, exulting, scourges
Jutty cliff and sandy dingle!

Talk of melancholy Ocean,—
If thou feelest wane and wither
Every germ of glad emotion,
Come, O Vivian Grey! come hither.

Sit and mark the matchless glory
Of the clouds that overshadow us,
Afreets of the Eastern story,
Titans such as Keats portrayed us,—

Till majestically blending,
Folded on the western billow,
They await their lord's descending,
Strewing his imperial pillow.

Not in youth's intoxication,
Not in manhood's strange successes,
Didst thou drink an inspiration
Such as here the heart confesses.

Here, where joy surrounds thee wholly,
If thy thought a moment listens
To intruding melancholy,
It is born of reminiscence,—

Of the old forsaken causes,
Of the higher fame's bereavement,
Of a lifetime of applauses,
Barren, barren of achievement;

Genius in ignoble traces,
 Leading ranks whom thou despisest,
 Till thy self-willed fate effaces
 All that in thy soul thou prizest ;

For the prophet's fire and motion,
 Icy mask and sneer sardonic,—
 Be it so.—Majestic Ocean,
 Thou art melancholy's tonic.

The Spectator.

LITERARY NOTICES.

ART-EDUCATION APPLIED TO INDUSTRY. By George Ward Nichols. With Illustrations. New York : *Harper & Bros.*

The object of this work, as explained by Mr. Nichols in his preface, is "to show the need of art-education in the United States ; to relate something of its history in Europe ; to explain what is meant by its application to industry ; and to propose a method of instruction best adapted to our people and institutions." Mr. Nichols was one of the judges at the Centennial Exposition, and in studying there the different national exhibits, was struck with the marked inferiority of American manufactures in all those departments where art and taste, as distinguished from merely mechanical skill and inventive ingenuity, are required. Looking about for the reason of this inferiority, he finds it in the simple fact that while in America art and industry have been completely dissociated in popular thought and in ordinary educational methods, the leading nations of Europe have been acting on the theory that the two are closely interlinked, and have applied the best talent of their respective countries to the devising of systems of instruction which shall impress upon every student a sense of this intimate relationship, and at the same time impart to him a knowledge both of the principles of Art and of what has been done and may be done in the various fields of industrial effort. That the inferiority is not inherent in the race, as the French used arrogantly to maintain, is proved by the experience of England. At the great Exhibition of 1851 England learned the same lesson regarding herself that was taught us, or ought to have been taught us, by the competitive displays of 1876—namely, that other nations are far ahead in the race for that vast and increasing portion of modern commerce which is secured by superiority in the art of applying refined taste and technical skill to industrial products and processes. With characteristic energy, the English Government and people addressed themselves to

the task of remedying their deficiencies. Art-schools and institutes of technology were established in the leading industrial centres ; museums were formed ; drawing and the elementary principles of design were made an essential feature in the curriculum of all the schools ; and systems of prizes and rewards aroused emulation and stimulated ambition. And the result is that in less than twenty-five years England has completely re-established her position, and is now confessedly an even competitor with France in fields of which for a century the French had enjoyed almost a complete monopoly.

Mr. Nichols desires us to profit in a similar manner by our own lesson, and is confident that if once the people are convinced of its importance, the same qualities and faculties that have gained us the lead in all things involving mechanical ingenuity will also secure us an honorable position in those industries from which we are at present almost excluded by our lack of art-knowledge and art-training. He is aware that we cannot adopt the same educational methods as those which have succeeded in countries where the general government can take the initiative and exercise control ; but he rightly assumes that their experience can be turned to our advantage, and he devotes a considerable portion of his book to a detailed examination of the systems in vogue in France, England, Belgium, Prussia, Austria, Russia, Italy, and Spain. Deducing from these various systems the principles which have been generally accepted as most essential, and the methods that experience has shown to be best, he constructs from them a systematic scheme of art-instruction which, as he says, "is adapted to our genius and institutions," and which in fact fits in exactly with our existing common-school and collegiate system. The plan is comprehensive in scope and specific in detail ; it is carefully reasoned out ; and it is flexible enough to adapt itself easily to such minor differences as exist between the educational methods of different

States and institutions of learning. Of its value as a whole, practical experiment, of course, can furnish the only adequate test, but there can be no doubt that it is full of suggestion for whoever would undertake scientific instruction in Art.

The matter of Mr. Nichols's book is of the highest value and interest, but the manner is faulty in the extreme. There is scarcely any attempt at systematic arrangement; different branches of the same topic are discussed in widely-separated chapters; subjects follow one another with scarcely more logical consecutiveness than in the miscellaneous excerpts of a scrap-book; the style is lacking in the precision which such a treatise calls for; and the entire work gives the impression that the author set himself a task which was beyond either his powers or the attention which he could bestow upon it. The numerous illustrations seldom have any particular relevancy to the text, but they are exceedingly beautiful, and the book is gotten up in a style of unusual richness and elegance.

COLLECTION OF FOREIGN AUTHORS. NO. I. Samuel Brohl and Company. Translated from the French of Victor Cherbuliez. New York: D. Appleton & Co.

The publication of this story marks the beginning of an enterprise which will probably add materially to the resources of that class of readers who seek mental recreation in the better class of current fiction and belles-lettres, and whose tastes are sufficiently cosmopolitan to enable them to enjoy the flavor of other literatures than the English. In their "Collection of Foreign Authors," the Messrs. Appleton propose to gather the best current productions of the leading Continental (non-English) writers, and to present them to the American public in careful and spirited translations. The design is somewhat similar to that of the German Tauchnitz series, and in size and general appearance the volumes will closely resemble the well-known Tauchnitz editions.

The initial volume of the series gives a favorable impression of its character and promise. Current French fiction is apt to be regarded by American and English readers with a not unnatural suspicion, especially if it has achieved a Parisian popularity; but though Cherbuliez is one of the most successful of living French novelists, his stories are as pure and wholesome as those of any English writer of equal rank, and far less objectionable on grounds both of morality and of art than the widely-circulated productions of the English sensational school. "Samuel Brohl and Company," as far as its "morality" is concerned, might have been written by

Miss Yonge, though [its] lightness of touch and sparkling vivacity of style would probably impress Miss Yonge as indicating in M. Cherbuliez a lack of that seriousness with which she evidently thinks the novelist should regard his vocation. It is a society novel, pure and simple, and aims at furnishing the reader with entertainment rather than at reforming or "elevating" him. It tells the story of a social impostor and of a beautiful young girl whose naive innocence is for a time deceived by his social graces and his pretended nobility of heart; and it is written with all that vigor, and brilliancy, and suave grace of manner and style that render the best class of French writing so enjoyable. Some part of the flavor of these qualities is necessarily lost in a translation, yet in this case the translator has done his work exceptionally well, and the story ought to please a wide circle of readers.

ENGLISH GRAMMAR AS BEARING UPON COMPOSITION. By Alexander Bain, LL.D. New York: Henry Holt & Co.

This treatise completes Dr. Bain's excellent course in grammar, supplying, along with an independent commentary, copious examples illustrative of the general rules laid down in the preceding volume of the series, "Higher English Grammar." In the arrangement of the treatise, special pains are first bestowed upon securing precise and logical definitions of the various parts of speech; and then the parts of speech are taken up one by one, analyzed exhaustively, and the relative function pointed out which each performs in the art of speaking and writing. Much more attention than usual is bestowed upon the derivation and composition of words, and upon that portion of syntax which deals with the order of words in a sentence. Nearly a fifth of the entire book is devoted to exemplifying the modes of arrangement under many varieties of sentence and structure. The practical method of instruction adopted throughout by Dr. Bain is indicated by the following extract from his preface: "Long experience has convinced me that the greatest trouble in beginning the study of composition is to fix the attention upon anything in particular; to find any exercise to the judgment, or any motive to choose between competing modes of expression. Hence, in teaching English, the most effective method of all seems to me to be this: having selected an exemplary passage, first to assign its peculiar excellence and its deficiency, and next to point out what things contribute to the one, what to the other, and what are indifferent to both. The pupils are thus accustomed to weigh every expression that

comes before them, and this I take to be the beginning of the art of composition."

The author raises sundry questions not previously agitated within the sphere of English grammar, and the accepted definitions and rules are subjected to a keen and exhaustive scrutiny. Indeed, one of the most hopeful features of the book is the proof which it affords that a higher order of intellect than hitherto is being attracted to the study of the structure and niceties of our English speech.

THE POETICAL WORKS OF JOHN MILTON. Globe Edition. With Introductions by David Masson, M.A., LL.D. London and New York: Macmillan & Co.

Messrs. Macmillan & Co.'s "Globe Editions" of standard English authors are famous for their combination of pure text, scholarly editing, and excellent print, with neatness of appearance and economy of price; and the present volume is one of the best of the admirably selected series. Professor Masson has devoted many years to the study and interpretation of Milton's life and works, and has brought to his task a loving enthusiasm and vast stores of scholarship. His life of Milton easily takes a place in the first rank of English biographical literature, and his "Cambridge Edition" of Milton's poems has been generally accepted by students as the best and most completely equipped with critical aids that has appeared. The "Introductions," which form the special feature of the present edition, are an adaptation of the more extensive editorial matter of the Cambridge edition, and will be found to furnish a very complete and highly useful critical apparatus for the study and understanding of Milton's mind and method. Their purpose, as explained by Mr. Masson, is "to elucidate the circumstances, motives, and intention of each of the poems individually;" and if read in their chronological order, they also supply a continuous and rather minute literary biography of the poet.

Taking into consideration the editorial labor that has been bestowed upon it, its typographical excellence, and its cheapness of price, the Globe Edition of Milton may be confidently pronounced the best for popular use that has yet been issued.

THE MARQUIS OF LOSSIE. A Romance. By George Macdonald. Philadelphia: J. B. Lippincott & Co.

Sequels are apt to be inferior in interest to the stories which they continue, but the "Marquis of Lossie" is an undeniable improvement upon "Malcolm," though the latter was a romance of no little power. Mr. Macdonald seems to have become better ac-

quainted with his characters, and he depicts them in his later work with a surer hand and more delicate sympathy. There is still too large an infusion of the didactic, and too much space is devoted to digressions into the field of theology and morals; but such themes spring so spontaneously from the author's mind that we do not resent them as we are apt to do when they are lugged in irrelevantly and superfluously; and Mr. Macdonald always aims to stimulate high thought and noble endeavor, as well as to furnish innocent amusement. "The Marquis of Lossie" fulfils all these functions, and will be recognized as one of the best of its author's later stories.

FOREIGN LITERARY NOTES.

THE Rev. Thomas Fowler, M.A., Professor of Logic at Oxford, is engaged upon a new edition of the *Novum Organum* of Bacon.

MR. SWINBURNE has in the press a study of Charlotte and Emily Brontë and their writings, in which their position as poets is discussed.

MESSRS. HACHETTE & Co. will publish shortly a large work with more than sixty plates, engraved on copper, relating to the excavations of Monsieur Carapanos at Dodona.

PROF. MICHAELIS, of Strasbourg, has just completed a monograph which is likely to provoke some discussion. The professor, who is an authority on all matters which have to do with the history of sculpture, confidently affirms that he has discovered among the treasures at Holkham a genuine bust of Thucydides.

THE number of students at the University established by the Germans at Strasbourg has decreased during the present summer Semester. In the winter Semester it was 704. The faculties of medicine and philosophy have most; that of theology fewest, containing but forty students. The two just mentioned have about 170 each.

THE first part of Luther's translation of the Old Testament, embracing the Pentateuch, appeared in 1523 at Wittenberg. The second, which was already finished on the 4th of December of the same year, appeared, like the first, in large quarto. It contains the portion from Joshua to Esther, 416 leaves, and has many pictures. Prof. Kindscher, of Zerbst, has found in the ducal archives of that place almost the whole MS. of this latter portion, in Luther's own handwriting.

IT is not generally known that an interesting collection of letters of John Locke, nearly 100 in number, is preserved at Nynhead Court,

in Somersetshire, which seem never to have been used as biographical material. They are in the possession of Mr. Ayshford Sanford, into whose family they came from the representatives of Locke's friend, Clark of Chipley, to whom many of them are addressed. It were much to be wished that the accomplished possessor of these relics would take some means of making them known to the world.—*The Academy.*

AN important volume in theological literature has just appeared in German, entitled "Die Anfänge des Christenthums," by Holtzmann, Hossbach, Marbach, Pfeiderer, Schmeidler, Steck, and Ziegler, consisting of lectures delivered last winter in Berlin in connection with the Unionsverein. The volume presents the results of the theology which was elaborated by Baur, Zeller, and others; developing the circumstances out of which Christianity arose, and the immediate influences that produced the books of the New Testament. Able professors and pastors contribute to the work, in which old orthodox views are entirely reversed.

M. ALFRED FIRMIN-DIDOT has sent to Athens, consigned to the mayor of that city, the portrait of his father, Ambroise Firmin-Didot, which was exhibited in the *Salon* this year. Accompanying this present is a collection of all the Greek works published by the Didot firm at Paris, and handsomely bound, which are to be placed in one of the apartments of the Town Hall at Athens. M. Ambroise Didot was one of the earliest Phil-Hellenes, when the Greeks sorely needed sympathy and assistance. He was also the principal supporter and secretary of the Greek Committee at Paris, which included amongst its members the following distinguished persons:—Chateaubriand, Villemain, the Duke de la Rochefoucauld-Liancourt, the Duke de Fitzjames, Laffitte, Delessert, etc.

M. LÉOUZON-LE-DUC has published an account of the French MSS. in the Imperial Library at St. Petersburg, which were acquired after the fall of the Bastille and the sack of the Abbey of Saint-Germain des-Prés in 1789, by a Russian agent, named Dubrowski, and by him sold to the Emperor Alexander I. in 1807. The Russians think very highly of this collection, and were so fearful of its falling into the hands of the French on their invasion of Russia in 1812, that it was packed up in boxes ready to be sent off to the extreme end of the Government of Olonetz, should anything disastrous occur at St. Petersburg. Among the documents a great many relate to the prisoners from time to time shut up in the Bastille. The letters and complaints of some of these are touching and often curious. Thus M.

D'Aligne, imprisoned for having been wanting in respect to the Marquise de Pompadour, complains of the intolerable *régime* to which he is subject; while an Abbé asks for a variety of indulgences, foremost among which is snuff. He likewise enumerates the following articles as essentially necessary to his comfort: a pair of slippers, four Indian handkerchiefs, four pairs of linen stockings, six collars, muslin for two pairs of ruffles, a muff, an "Almanach Royal," and a packet of tooth-picks.

SCIENCE AND ART.

MODIFICATION OF CLIMATE BY ARTIFICIAL HEAT.—It is computed that five million tons of coal are burnt in London in a year. The President of the Meteorological Society states in his annual address that the heat thereby produced combined with that evolved by the inhabitants, suffices to raise the temperature of the air two degrees immediately above the metropolis. Hence it is that some invalids find it better for their health to reside in London during the winter rather than in the country. But the country benefits also, for the prevailing winds being from the south-west and west, the county of Essex and the valley of the Thames below London profit by the adventitious warmth. On the other hand, it is stated that 'London air even in the suburbs proves, as might be expected, exceedingly impervious to the sun's rays.'

A REGISTER OF WEIGHT VARIATIONS.—Mr. Redier, clockmaker of Paris, has exhibited to the Société d'Encouragement pour l'Industrie Nationale a balance which registers variations of weight. In this ingenious instrument clockwork is so arranged in connection with a copper cylinder, suspended in a vessel of water, as to produce two antagonistic movements, one of which comes into play whenever excited by the action of the other. By this alternate movement the registration proceeds steadily, and is recorded by a pencil on a band of paper. An exceedingly light spring lever is so combined with the clockwork that it will keep a comparatively heavy weight in action; such as holding a barometer free to rise and fall while the column of mercury stands always at the same level. Many applications may be made of this instrument, especially in the sciences of observation. Its sensibility is such that it will register the loss of weight in a spirit-lamp while burning. The physiologist may employ it to ascertain the weight lost by animals during respiration and perspiration, and the botanist to determine the amount of evaporation from the leaves of a plant; and from these examples others may be imagined.

JUPITER'S SATELLITES.—The Royal Astronomical Society have published an account of observations of Jupiter's satellites made by Mr. Todd of the Observatory, Adelaide, under remarkably favorable circumstances. Sometimes the satellite, when on the point of occultation, is seen apparently through the edge of Jupiter, "as if the planet were surrounded by a transparent atmosphere laden with clouds." In a subsequent observation, "the shadow of the third satellite, when in mid-transit along a high northern parallel, appeared to be visibly oval or flattened at the poles." On several occasions, as Mr. Todd states, he has been surprised at ingress of shadow by the marvellous sharpness, the minutest indentation of the limb being at once detected. One night he saw the second satellite, as it emerged from behind the planet, immediately pass into the shadow, then reappear within a few minutes of the reappearance of and close to the first satellite; and the two thus formed "a pretty coarse double star." This must have been a very interesting sight. And there were times when the astronomer was much impressed by the sudden and extensive changes in the cloud-belts of the planet, as though some storm were there in progress, changing the form and dimensions of the belts in an hour or two, or even less. After reading this, may we not say that the observer at Adelaide is remarkably fortunate?

"COSMIC DUST."—The fall of exceedingly minute mineral particles in the snow and rain in regions far away from dust and smoke has been accepted as evidence that a so-called "cosmic dust" floats in our atmosphere. Some physicists believe that this dust is always falling everywhere, that the bulk of the earth is increased, and that the phenomenon known to astronomers as acceleration of the moon's motion is thereby accounted for. Iron is found among the particles, exceedingly small and globular in form, as if they had been subjected to a high temperature. Recent spectrum analysis has led to the conclusion that the light of the aurora borealis may be due to the presence of these particles of iron in a state of incandescence. In a communication to the Vaudoise Society of Natural Sciences, Mr. Yung assumes that this dust, coming to us from celestial space, will be most abundant immediately after the showers of shooting-stars in August and November; and he purposes to collect masses of air on great heights and treat them in such a way as to eliminate all the cosmic dust which they may contain. His experiments lead him to believe that the particles are in much greater quantity than hitherto supposed, and that they

play an important part in the physics of the globe and in the dispersion of solar light. Dr. Tyndall has shewn that a perfectly pure gas has no dispersive action. The cosmic dust floating in the upper regions of the atmosphere would account for the luminous train of meteors, and for certain phenomena observed by means of the spectroscope. A long time will of course be required for the quantitative experiments, but they will be of great interest to astronomers as well as to physicists generally.

EFFECT OF PLANTS ON WATER.—M. Jeannel has described to the Société Centrale d'Horticulture de France some interesting experiments made by him, showing the action of plants on impure water. It appears that, in the month of May, 60 grams of water, which had been used for steeping haricots until it had become offensive, and which the microscope showed to be full of "bacteria"—small animalculæ, supposed to be the ordinary agents of putrefaction—was placed in a glass, and the root of a young growing plant plunged therein. An equal quantity of the same water was placed beside it in a test glass at the same time, without a root. The water in the second glass remained infected; that containing the living root, on the contrary, was pure at the end of the fourth day—all the bacteria had disappeared, and had been replaced by a large infusorial animalculæ of kinds found only in potable water. Water containing putrid meat was experimented upon in the same manner and with the same results. It was found that it was only necessary to immerse the root of a living plant therein for five days to remove all the ill odor and render the water pure and sweet.

STATE OF THE BRAIN AFFECTING SLEEP.—Direct experiments by Durham, Hammond, and others, show that in sleep the brain is anæmic. This is proved also, indirectly, by the greater quantity of blood which circulates in the skin and extremities during sleep, because there is greater radiation of heat from the skin. Whatever tends to abstract blood from the brain favors sleep; hence, digestion tends to cause sleep, as do hot drinks, etc., by drawing the blood supply from the brain to the stomach. So, conversely, whatever tends to keep up the activity of the brain-cells and the circulation tends to prevent sleep; this being, therefore, the effect of any stimulus applied to the senses, sights, sounds, thought, anxiety, and the like, while the opposite tends to favor sleep.

ALCOHOLIC ANÆSTHESIA.—Some interesting experiments made in Germany in the production of local anæsthesia, show that if the

hand be immersed for a short time in ice-water severe pain is caused, but that no such pain is produced on immersing the hand in cold alcohol, not even when the temperature of the alcohol is as low as five degrees Cent. Glycerine was found to possess a similar property. Ether occasioned pain, and quicksilver more acute pain still, causing the speedy withdrawal of the finger when plunged into this liquid at a temperature of three degrees. It was next ascertained that, on the finger being held for a long time in alcohol having a temperature of five degrees Cent., no pain was experienced, and, although the finger distinctly perceived the faintest touch, sharp pricks gave no pain. This seems to show that the application of cold alcohol, one of the most simple as well as safe processes, has the effect of depriving the part of the special sensibility to pain without, however, impairing the delicacy of the general tactile sensation which, as is well known, resides in the superficial integument.

HEALTH AND SLOW PULSE.—Some interesting statements are reported to have been made at a meeting of the Clinical Society, London, showing that a slow pulse may in no wise interfere with health. The most remarkable case, perhaps, was that of Dr. Hewan, as related by himself. It seems that, twenty-one years ago, after prolonged study and work, his pulse fell from seventy-two to fifty-five, and he felt very cold; from that time its frequency gradually decreased until about eleven years later, when it was but twenty-four beats per minute. Its present rate is about twenty-eight. Notwithstanding this, he has not suffered from fainting fits, or cold, is capable of great physical exertion—of which evidence is to be found in his ascent of a high mountain—and his digestion remains unimpaired. Another speaker said that Napoleon had a slow pulse, being about thirty to forty per minute; and another member stated the rate of a horse's pulse to be only sixteen.

CONVERSION OF THE DESERT OF SAHARA INTO AN INLAND SEA.—The French Academy is still discussing the proposal to convert the Algerian Sahara into a great inland sea. The improvement in the climate of Egypt since the Suez Canal was opened has been cited in support of the project, but the opponents of the plan do not consider the two cases similar. M. Naudin thought the interior sea would very likely turn out to be an immense pestilential focus, made by human hands at a great cost. The maximum depth is estimated at not more than 24 to 25 metres; but a more important question was, What of the borders

of the lake? There would necessarily be a long stretch of shallows, which would be left dry in the hot season, and would present all the conditions of insalubrity—mixture of salt and fresh water, bright solar light and tropical heat during two thirds of the year. This would generate a vast number of vegetable and animal organisms, which, falling into putrefaction, would corrupt the air for leagues round. The only feasible way M. Naudin saw for converting the bad Saharan region was the planting and sowing of arborescent vegetation which might suit the soil and climate. It was specially desirable to recover the slopes and summits of the Algerian mountains with larches and Aleppo pines, and oaks and chestnuts, with a view to modifying the climate. On the other hand, Mr. Roudaire claimed that these general results would follow the creation of an inland African sea: (1) a marked improvement in the climate of Algeria and Tunis, and the salubrity of adjoining regions; (2) the opening of a new commercial path for the countries south of the northern mountain ranges, and the caravans of Central Africa; and (3) the complete security of Algeria, by making insurrections impossible.

BRAIN AND SEX.—Few anthropologists, remarks the *English Mechanic*, have studied the weight of the brain in its relation with sex, and still less is known about the lower jawbone in the same relation. M. Bertillon lately called attention to the latter point, and said he had distinguished the jaws of New Caledonian females from those of males by the weight. M. Morselli has been giving attention to the subject, and has made exact measurements on 172 crania of known sex. His principal conclusions are these:—1. The cranium of man always weighs more than that of woman, the relation being about 100:85.7. This sexual character acquires high importance when connected with cerebral capacity and the cerebro-spinal index. 2. The lower jaw also weighs more in man than in woman, and in greater proportion than the cranium (100:78.5). This sexual divergence is the greatest and most constant of those now known to anthropologists. 3. The same difference exists between the two sexes of anthropomorphous apes. 4. The individual variations are more extensive in women than in men. 5. Taking into consideration the relation between the weight and the capacity of the cranium, it may be inferred that woman has a less development of osseous tissue. 6. In the ratio of the weights of the cranium and the lower maxillary, we have a new zoological difference between man and the apes, the latter always presenting a greater jaw relatively to the cranium than man.

TEMPERATURE OF THE INTERIOR OF THE EARTH.—From observations made on the well of Sperenburg, near Berlin, M. Mohr ("Les Mondes,") concludes that at the depth of 5170 feet the increment of heat must be nil. A similar decrease of the increment of heat has been observed in the Artesian well of Grenelle. Hence M. Mohr draws conclusions unfavorable to the Plutonian theory.

VARIETIES.

THOMAS CARLYLE'S FATHER.—Of the five brother masons, James Carlyle, though not the eldest, was the virtual leader. The brothers usually worked together, but it was James who acted as "master," making contracts for building and repairing cottages, the others working under him, if not quite as servants, yet in some sort of dependency. James Carlyle was acknowledged far and wide, not only as the most skilful man at his trade, but sagacious in all his undertakings, and with a store of knowledge, derived from study and observation, that was the astonishment of strangers with whom he came into contact. He was particularly noted for his habit of using quaint and uncommon expressions, derived, probably, from extensive reading of old books, chiefly such as related to the times of the Reformation and the deeds of the Covenanters. There now lives at Ecclefechan, where she was born and spent all her life, an old lady, past ninety, yet still full of intelligence and vivacity, Mrs. Mulligan, who, remembering James Carlyle most distinctly, was able, when asked, to give a singularly striking account of him. "Old James, aye! What a root (original) of a bodie he was," the old lady exclaimed, with singular animation; "aye, a curious body: he beat this world. A spirited bodie; he would sit on no man's coat-tails. And sic stories he could tell! Sic sayings, too! Sic names he would give to things and folk! Sic words he had as were never heard before!" Continuing her description of James Carlyle, of whom she evidently was a sincere admirer, Mrs. Mulligan added, in answer to a question, "It is not true that he ever was an elder of the Kirk. He never belonged to the auld Kirk; he and all his brothers were members of the Relief Church here. He never held any office that I know of; nay, not he; but he always spoke out his mind at meetings." And, in answer to another question, the old lady went on with her description of James Carlyle:—"He was the best of the brothers, there canna be any doot about that. But I think they sometimes led him into trouble. He was a good scholar, he could do

his ain business well, and was looked up to as a knowing bodie. He had old-fashioned words, like nobody else. He read muckle; he was a great talker, weel gifted with the tongue. It was a muckle treat to be in his house at nicht, to hear him tell stories and tales. But he was always a very strict old bodie, and could bide no contradiction." Such was James, the father of Thomas Carlyle.—*Biographical Magazine.*

AMERICA'S FIRST ENVOY TO ENGLAND.—Although peace between Great Britain and the United States was definitively concluded on the 3d of September, 1783, it was not until the middle of 1785 that any representative of the new Power was officially received in England. The causes of this delay are not difficult to understand. There was a natural disinclination on both sides to make approaches. On the 24th of February, 1785, Congress elected John Adams to the post of Envoy to the Court of St. James's. He had to represent his country at the court of its former Sovereign, towards whom he had for several years stood in the position of a rebel; and it was necessary that he should do this in a way which should neither compromise the new Power nor offend the old. It was in the month of May that he arrived in England on his delicate mission; it was on the first of June that he was presented to George III., at St. James's Palace. The only other person present on this occasion was Lord Carmarthen, the Secretary for Foreign Affairs; and the addresses then delivered have been reported only by Adams. It was not the original intention or desire of the Envoy to deliver any address at all, but he was informed by the Master of the Ceremonies that such a compliment was usual with newly-appointed Foreign Ministers, and he therefore complied. After assuring his Majesty that it was the unanimous disposition of the United States to cultivate the most friendly and liberal intercourse between his Majesty's subjects and their citizens, and expressing the best wishes of his country for his Majesty's health and happiness, and for that of the Royal Family, Adams entered on the real subject-matter of his speech. "I think myself more fortunate than all my fellow-citizens," said the American, addressing the monarch to whom he had once borne allegiance, "in having the distinguished honor to be the first to stand in your Majesty's Royal presence in a diplomatic character; and I shall esteem myself the happiest of men if I can be instrumental in recommending my country more and more to your Majesty's Royal benevolence, and of restoring an entire esteem, confidence, and affection, or, in better words, the old good-nature and the old good-

humor between people who, though separated by an ocean, and under different Governments, have the same language, a similar religion, and kindred blood. I beg your Majesty's permission to add that, although I have sometime before been entrusted by my country, it was never in my whole life in a manner so agreeable to myself." "Sir," replied the King, "the circumstances of this audience are so extraordinary, the language you have told me is so extremely proper, and the feelings you have discovered are so justly adapted to the occasion, that I must say I not only receive with pleasure the assurance of the friendly dispositions of the United States, but that I am very glad the choice has fallen upon you to be their Minister. I wish you, sir, to believe, and that it may be understood in America, that I have done nothing in the late contest but what I thought myself indispensably bound to do by the duty which I owed to my people. I will be very frank with you. I was the last to consent to the separation; but the separation being made, and having become inevitable, I have always said, as I say now, that I would be the first to meet the friendship of the United States as an independent Power. The moment I see such sentiments and language as yours prevail, and a disposition to give to this country the preference, that moment I shall say, let the circumstances of language, religion, and blood have their natural and full effect." George had evidently heard something of the distrust of France which was so prominent a feature in the political character of Adams; and he observed—which was certainly not in the best taste, considering that England and France were then at peace—that the American Envoy was understood to have no prejudices in favor of the French. Adams replied by admitting the fact, with the significant addition, "I must avow to your Majesty that I have no attachment but to my own country." George responded with a heartiness that could not be mistaken (for the principle was one with which he naturally sympathized), "An honest man will never have any other." And with these words the interview terminated. The brief conversation had been conducted on both sides with much good feeling, and Adams has recorded that both he and the King were powerfully affected.—*Cassell's History of the United States.*

HURRY AND "HIGH PRESSURE."—It is the pace that kills; and of all forms of "overwork," that which consists in an excessive burst of effort, straining to the strength, and worrying to the will, hurry of all kinds—for example, that so often needed to catch a train,

the effort required to complete a task of headwork within a period of time too short for its accomplishment by moderate energy—is injurious. Few suffer from overwork in the aggregate; it is too much work in too little time that causes the break-down in nineteen cases out of twenty, when collapse occurs. Most sufferers bring the evil on themselves by driving off the day's work until the space allotted for its performance is past, or much reduced. Method in work is the great need of the day. If some portion of each division of time was devoted to the apportioning of hours and energy, there would be less confusion, far less "hurry," and the need of working at high pressure would be greatly reduced, if not wholly obviated. A great deal has been written and said of late, to exceedingly little practical purpose, on the subject of "overwork." We doubt whether what is included under this description might not generally be more appropriately defined as work done in a hurry, because the time legitimately appropriated to its accomplishment has been wasted or misapplied. Hurry to catch a train generally implies starting too late. High pressure is, says the *Lancet*, either the consequence of a like error at the outset of a task, or the penalty of attempting to compensate by intense effort for inadequate opportunity. If brain is bartered for business in this fashion, the goose is killed for the sake of the golden eggs, and greed works its own discomfiture.

IRISH SONG.

[Air: "The Banks of the Daisies."]

When first I saw young Molly
Sthriched beneath the holly,
Fast asleep, forewent her sheep, wan dreamy summer's
day,
Wid daisies laughin' round her,
Hand and foot I bound her,
Then kissed her on her bloomin' cheek, and softly stole
away.

But as, wid blushes burnin',
Tiptoe I was turnin',
From sleep she starts and on me darts a dreadful lightnin'-
ray,
My foolish, flowery fetters
Scornfully she scatters,
And like a winter sunbeam she coldly sweeps away.

But Love, young Love, comes stoopin'
O'er my daisies droopin',
And oh! each flower, wid fairy-power, the rosy Boy re-
news;
Then twines each charmin' cluster
In links of starry lustre,
And wid the chain enchanting, my colleen proud pursues.

And soon I met young Molly
Musin' melancholy,
Wid downcast eyes and startin' sighs, along the meadow
bank,
And oh! her swellin' bosom
Was wreathed wid daisy-blossom,
Like stars in summer heaven, as in my arms she sank.

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